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HINTS to Teachers and Students
on the Choice of Geographical
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HINTS to Teachers and Students on the Choice of Geographical Books for Reference and Reading, with Classified Lists

PREPARED AT THE REQUEST OF THE GEOGRAPHICAL
ASSOCIATION

BY

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Preface.

THE object of this little volume is to place before teachers and students a selection of the best available books on Geography as an educational subject, and on different parts of the world. An effort has been made to include all cheap editions of recognised authorities ; but it is too much to hope that this has been completely successful. So many inquiries are made by teachers and others for the names of works published at 5s. or less, suitable for school prizes, for placing in libraries, or for use as reading books, that a bibliography of low-priced geographical books is sure to be useful. As a rule, only books known to the compiler as trustworthy in fact and interesting in style have been included ; but a few are added on the recommendation of friends.

In order to guide the reading of those to whom a good library is available, a selection of more expensive works, and of books now out of print, has been added. These, it may be observed, are often to be purchased second-hand at very low prices, the best books, from a geographical point of view, being frequently in small demand, and of little profit to the bookseller. The prices must not be taken as if this were a second-hand bookseller's catalogue. They are in all cases the publishers' prices for the books when new. In most cases they are subject to discount, while in many instances the prices of the books have been reduced since their publication. When the published price of a book could not be ascertained, the probable price is given preceded by *ca.* Works in the English language have first been chosen, but in some departments of Geography there are gaps which it seemed better to fill with

French or German works of standard value than to leave vacant.

So much uncertainty still prevails as to the subject-matter and view-point of modern scientific Geography, that a short summary of the Principles of Geography precedes the more practical part of the work. This summary is a revision of parts of two lectures delivered to the Royal Scottish Geographical Society, and published in the *Scottish Geographical Magazine* for 1892 and 1895; the same view, more fully developed, is presented in the *Realm of Nature* (Murray).

The introductions to the various sections of the bibliography are only practical hints on the use of the books afterwards mentioned; they do not pretend to possess any independent value. The lists are given in alphabetical order according to the authors' names.

While conscious of having left out a number of books quite as worthy as those included, and not without the fear of having noticed some that might have been better omitted, the compiler believes that the lists are representative. Mr J. S. Masterman, M.A., Secretary of the Geographical Association,* has generously assisted in preparing the lists, and it was at the suggestion of the Geographical Association that the work was undertaken. Valuable suggestions have also been made by Mr E. Heawood, M.A., and by other friends.

It is, perhaps, necessary to state in this age of advertisement that no publisher has been informed of the preparation of these lists, which are compiled solely with regard to what the compiler believes to be the merits of the books.

H. R. M.

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July 1897.

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CHAPTER I.

The Principles of Geography.

WHEN the idea of founding Geographical Chairs in our Universities was first mooted, many men, well informed and eminent in science and literature, supposed, and some stated in modified words, that a Professor of Geography would be required to discourse solely on the countries of the World, the provinces, counties, parishes, cities, towns, villages, and hamlets thereof, together with the rivers, mountains, railways, canals, roads, and footpaths pertaining thereunto.

This is in no sense the conception of Geography which prevails amongst modern geographers. Geography may be held to be the description of the Earth in relation to Man, in all the bearings of that relationship. It is one subject, and, to be effective, must be treated as such. The attempt to rend it apart into the isolated departments of Mathematical, Physical, Political, Historical, and Commercial Geography is thoroughly unsatisfactory. The severed limbs, always unsightly, ultimately shrivel into the bones, dead and dry, that have made the subject to so many a horror in school and an object of aversion during life. Elementary instruction in Geography is everywhere rapidly emerging from the repulsive stage: textbooks have become interesting, and lessons are made permanently instructive; but the concrete teaching necessary in school work differs widely from the abstract or philosophical treatment demanded when the subject is impressed with the guinea stamp of a University. The elementary differs

from the advanced treatment much as the acquisition of the alphabet differs from the study of philology. In ancient times Geography was viewed as the root-science, from which all others branched; now we prefer to view it as the focus at which all the physical and historical sciences converge to throw light on the Earth as an organic whole. It must be distinctly borne in mind that a deal of drudgery necessarily accompanies the early study of Geography: the student must "know his bones" before he goes on to what old writers termed "the physiology of the World."

Evolution, as a principle of Nature, has been shadowed forth from the earliest times, and its clear recognition, which has recently given an immense impulse to all sciences, enables us to treat of the Earth in a historical sequence, which traverses the entire field of Geography, involving the results but not incorporating the methods of every detailed science. We cannot, however, view the history of the Earth as one unbroken chain; there are at least two gaps which science as yet has not bridged, and these gaps may be viewed as separating three distinct evolutions, each superimposed upon, and running parallel to, the preceding. It is scarcely necessary to point out that evolution does not in any sense negative creation. Evolution shows a constant drift of change in a definite direction—from simple to more complex, from lower to higher, irresistibly suggesting guidance and direction from without, while it never touches the question of origin at all. The three parallel chains of evolution commence each with an abrupt beginning. The origin of the physical universe, the origin of life, and the origin of that which distinguishes man from other animals—call it mind, or soul, or spirit—may each require, so far as modern science has ascertained, an act of creation by some power external to the physical universe.

The first, or physical, evolution commenced with the origin of matter and energy. As far back as trustworthy inference can reach, the universe appears to have consisted of minute separated portions of matter associated with energy, in the form of a tendency to approach one another. According to

the Meteoritic modification of the Nebular hypothesis, the scattered fragments of cold dust sweep through space in swarms, which continually grow denser, and when two swarms cross each other's path the collision of particles changes energy of motion into heat and surrounds them with a haze of glowing gas. This whirling cloud, or primitive nebula, cools by radiation, and in cooling contracts and condenses. The particles drawing closer together, the potential energy of separation is converted into heat, which causes the mass to glow with a higher temperature. Thus for a time the condensing star rises in temperature as it loses heat. Portions of the whirling and rotating mass split off in rings, which shrink into separate spheres retained in definite orbits round the central star by gravitational attraction. Such spheres or planets cool down fast at first, but, after a solid crust forms, the loss of heat is greatly hampered. The planets, being small, have by cooling become liquid or even solid, and no longer shine with their own light; but the Sun—the central star of our system—continues to be surrounded with so voluminous a gaseous atmosphere that its temperature is possibly rising, and certainly not falling, on account of its loss of heat.

On each planet the available energy, the power of doing work, or of modifying matter, is divisible into two parts: its store of internal heat and its share of the heat radiated from the Sun. Sun heat is the more powerful on the surface of a planet situated at the distance of the Earth, and much depends on the manner of its incidence. As the Earth spins, turning once in twenty-four hours, half is always exposed to solar warmth and half is always cooling by radiation into space. Since the axis of spinning is not perpendicular to the plane in which the Earth pursues its path round the Sun, most of the heat falls between the tropics, while round each pole the cooling process preponderates. The positions in latitude which limit the zones of heat and cold depend on the angle of inclination of the Earth's axis, and the variation in the intervals of daylight and darkness depends upon the same condition. As the Earth pursues the ellipse of its orbit, the furnace zone

of tropical heat swings alternately northward and southward, and the north and south polar refrigerators alternately increase and diminish in intensity in the course of a year. If the Earth were of uniform surface, either land or sea, the temperature at any point would be a calculable function of the latitude.

When the Earth was much hotter than now, it must have been surrounded by a very dense and extensive atmosphere, but, as it cooled down, this atmosphere liquefied, and now only nitrogen, oxygen, argon, and carbonic acid remain gaseous in large amount, mixed with an ever-varying quantity of water-vapour. It is possible that the hydrosphere, or ocean, once entirely surrounded the solid globe, the irregularities of the surface of which appear to have been once less marked than now. As the lithosphere contracted from the loss of heat, the cool crust became too wide for the shrunken nucleus, and, sinking in upon it, fell into broad and growing wrinkles. The crests of these wrinkles gradually emerged above the hydrosphere, which gathered itself into the deepening hollows. The evolution of continents has been outlined by Professor James Geikie,* who suggests how the great world-ridges were first the site of scattered islands, and these, becoming united by upheaval, gave rise to continents. Internal heat-energy is always at work, deepening the hollows and elevating the ridges of the Earth's surface.

Simultaneously the differential attraction of Sun and Moon raises tides in the oceans, which produce powerful currents sweeping along the shores, breaking away and rearranging the rock materials. More important still is the action of solar heat-energy, acting on the exposed rocks, and stirring water and air into currents and winds that beat against the high lands, and forming rain, which falls and runs back to the sea. The work done in this way wears the rocks into pebbles and dust, and transports the *débris* to the sea-margin, where wind-driven waves are also at work breaking down the coast-line. Thus solar energy by erosion is always wearing down the high places and

* *Scottish Geographical Magazine*, vi. (1890), p. 57.

filling up the hollows. New upheavals produce sharply-folded mountain ranges, ridged up from the beds of sediment, and arising, according to a common plan, near one edge or the other of each continent. By the contest between the opposite tendencies of upheaval and erosion, the typical configuration of each continent has been carved upon it, and the existing scenery has gradually been formed, depending on the character and arrangement of the rocks.

The distribution of sea and land and the arrangement of mountain ranges divert the course of the sun-driven ocean currents and winds, and modify the system of oceanic and atmospheric circulation. The heating of the Earth is thus rearranged; and it has been calculated that one-half of the heat reaching the tropical zone from the Sun is carried into high latitudes and distributed by soft sea winds to less favourably situated lands. Rainfall and evaporation are greatly influenced by configuration, and by the resulting set of winds and currents.

The first chain of evolution leads almost to the completion of the Earth as we know it—a spinning ball, ridged into mountain-backed continents and isolated island groups rising above the ocean, surrounded by another ocean of air, both oceans alike stirred and circulated by solar energy, which distributes rain over the land, that, gathering into rivers, has fashioned valleys and spread thick layers of soft soil over the gentler slopes.

The second chain of evolution begins on the other side of the chasm which separates the not-living from the living. Physiographically, the change appears in the reversal of many physical processes. Carbonate of lime, for example, in the presence of living matter, separates out from sea-water as shells and coral; whereas, in the absence of life, sea-water, in otherwise identical conditions, dissolves coral and shells. Simple forms of life appeared first in the water, and, as age followed age, they increased in number and complexity, growing more diverse and more highly organised. Eventually the course of development diverged along two different lines, one resulting in

the growth of plant-life, the other in animal-life. Plants, and plants only, have the remarkable power of utilising solar energy in the form of sun-light, and, through it, causing to combine the elements of carbonic acid, water, and various salts into living substance. As a bye-product in this manufacture, they throw out more oxygen into the atmosphere and withdraw more carbonic acid from it than is counterbalanced by the ceaseless respiration of the plants. Hence, vegetable life, of the higher kinds at least, tends to increase the amount of oxygen in air. Animals are unable to utilise sun-light, and they cannot manufacture food from inorganic materials; they depend entirely upon plants, directly or indirectly, for their nourishment.

All living creatures are at the mercy of their environment, which, acting upon individual variations, has been held to ultimately bring the various species into their existing forms. Thus, in every natural region barred off from surrounding regions by mountains, deserts, or the sea, a more or less distinctive flora and fauna are found. Plants are most luxuriant where rainfall and sun-heat are at a maximum. Animals depend on the existence of vegetable food, but the two realms of life are very complexly interwoven, and the forms and numbers of plants and animals constantly oscillate about some position of equilibrium with their environment. Man is naturally classed as an animal, and, so far as regards the biological necessities of his life, he is completely under the influence of environment. But, in the marked contrasts between the mental and moral qualities of man and the other animals, we find evidence of another chasm, which separates the third evolution from the second. The impassable gap between the two chains is that man can consciously modify and direct the environment that moulds him.

The distinctively human attributes of man are visible in all varieties of the species, but they acquire more and more prominence in ascending the scale of evolution of civilisation. The classification of mankind is difficult, because the varieties of the one species are constantly mingling and varying, and various systems of classification—as, for example, by physical

character and by language—do not lead to the same result. Looked at broadly, mankind may be grouped round three well-marked types: the black, the yellow, and the white. These stand in the order of their development in civilisation and in religious insight. While all varieties of the human family seem capable of some degree of mental improvement, there appears to be for each a certain limit in the development of civilisation which cannot be passed. Emancipation from the slavery of environment is a very gradual process, and the lower tribes of the present day probably represent some of the stages by which the ancestors of the more advanced laboriously approached the goal. To understand the relation of Man to the Earth, of which he is the master, and to the command of which by him the triple course of evolution is directed, it is necessary to ascertain how far each different race has a hold on the region which it inhabits.

To the savage, in whom self-control and power over environment are at a minimum, thrift and forethought are unknown. He feasts when abundance comes, he starves when food is not found to his hand. In the very best conditions for perfect animal life the indigenous tribes of the human race seem to have made no progress in civilisation: the tropical representatives of the black type seem everywhere to have been smothered by the abundance of the means of life, and their minds have scarcely awakened to any but the primary animal wants. Food can be had without effort, clothing is unnecessary: so no effort is made and no ingenuity exerted. In the opposite extreme, as, for example, amongst the Eskimo, the extreme rigour of natural conditions stunts mental development. Completely fur-clad, skilled huntsmen, hardy fishers, and clever architects in ice, these people have not found it in their system of life to step beyond the satisfaction of immediate wants, and in the presence of European products they seem even to lose their primitive skill in handiwork. In temperate regions the regular recurrence of summer and winter, seasons of abundance and dearth, necessitates a certain amount of forethought; the need for suitable clothing and shelter calls for skill and ingenuity;

and there is no doubt that the conditions of the temperate zone have done much in educating and civilising the highest types of man. The advancement to high civilisation came by imperceptible degrees, many of which may still be traced in primitive tribes : weapons and tools of wood and bone gave place to stone and bronze, and these to iron and steel. Hunting and fishing were less followed when the nomad herdsmen began to rear and feed domestic animals, improving their breed by artificial selection, and moving them on to fresh pastures. Greater advancement is found when agriculture is taken in hand seriously : land is cultivated, the amount and the quality of food plants are increased, and the natural impulse of devouring the whole crop is controlled, men in years of scarcity voluntarily undergoing semi-starvation in order to save seed for an expected harvest. Lands of exceptional fertility are taken possession of by tribes strong enough to hold their own against competitors, until a stronger than they arrives and seizes control of people and crops. Necessity for defence in holding the common lands is a powerful bond in the formation of communities, and, from the merely passing interest in his habitat shown by the lowest savage, we find the higher races clinging to the region they have seized or inherited more strongly than to their own life. A community under a recognised form of government forms a nation, and a nation in possession of a region constitutes it a country.

The boundaries of countries tend toward rigidity : the vague dominions of barbarous monarchs suffice for the aborigines in their ignorance, but precise lines of demarcation have to be drawn by the civilised rivals, who ultimately divide continents between them. Animal and vegetable resources in a region alone excite the interest of primitive tribes, who only want food and clothing. And, in so far as food and clothing are primary requisites to all men, the fertility and character of the vegetation of regions must always be of paramount importance to the indwelling races. But as civilisation develops, new value is found in the land. Not the surface only, but what lies beneath attracts notice. Mineral resources come into play

as an important factor consequent on the division of labour, which enables the farmer to feed the miner, and the miner to equip the farmer. The growth of trade, above all, brings out the high importance of every hillock of the land, every shallow of the sea, each small difference in climate and production in the World. Much of our knowledge of Geography has followed from the expeditions of merchants in the past, until now traders reap their reward in the more minute subdivision of labour, and follow in the track of professional explorers.

Migrations or movements of large bodies of people may be regarded as of two kinds, according to their motive. The most common in the past have been centrifugal migrations, in which tribes were driven from a region by invasion or the failure of natural resources. This influence is still operative in the migration necessitated by overcrowding in thickly-peopled lands, and by persecution for religious or political opinions. The exiles of natural or arbitrary compulsion settle where they can. Many of the vast movements of savage hordes recorded in history were centrifugal migrations. Now centripetal migrations are perhaps more common. Men individually, but in large numbers, are attracted from all parts to regions of great natural advantage. The magnets of gold and diamonds have drawn hundreds of thousands to America, Africa, Australia; and rich farming-land has sucked population into Western America.

The recognition of the limitations, the influences, and the motives of human life and movement in reference to the Earth is by no means complete as yet. It requires study and research, and it promises help of a practical kind in aiding commerce, interpreting history, and guiding the course of politics. The settlement, in particular, of such political questions as bulk largely in every country with regard to the equilibrium of composite populations, the autonomy, complete or regulated, of people of distinct race living in defined regions under one central power, are complex problems in advanced Geography. Such problems may be worked out in many ways: by compromises, by the empiric application of former

experience—the historic method—or by the careful study of racial and regional characteristics : that is, by the application of the higher Geography.

In endeavouring to subdivide the content of Geography in such a way as to bring out the natural interrelations of its parts and their logical sequence, for purposes of exhaustive study, one may represent the whole metaphorically by a pyramid of several courses of masonry differing in material and finish, but each supported by those below and supporting those above. Thus the fundamental course would be Mathematical Geography, constructed of great blocks hewn from the quarries of the only absolute science, accurately squared and fitted. It includes all that has to do with exact measurement of space and time and motion, the form and dimensions of the Earth, its motions, and the construction of maps. Upon this base is reared the second tier, Physical Geography, the material for which, less homogeneous and perfect than the foregoing, comes from quarries scattered over the realms of many sciences—chemistry, physics, and the different departments of geology, meteorology, and oceanography. It is concerned with all those phenomena which depend on differences of substance, structure, and state, and accounts for the origin of surface-features and of scenery, the interactions of lithosphere, hydrosphere, and atmosphere, and the effect on each of solar energy. Next in order and less regular in structure, dependent on physical geography as physical is on mathematical, comes Bio-Geography, wherein the influence of life is taken into account. This serves to explain how the vital processes of organisms affect the structure of the Earth, and how the lifeless features of the globe regulate the distribution of vegetation and of animals. Arising directly from this floor, but as yet only imperfectly put together, is the course of Anthro-Geography, the elucidation of the action of mankind as an animal species upon the Earth. The unit of consideration is mankind as a whole ; the variety of races, and life-conditions and density of population, are the features taken into account, and the interaction between Man and Nature has to be studied in its widest aspects. The changes

in the relation of different tribes to their habitat belong to this zone, and these changes are the basis of Historical Geography, which forms the beginning of the next tier of the pyramid, in which the influence of races of men on the Earth finds a place. This may be termed, for lack of a better name, Political Geography ; its units are uncertain and transitory, for the hold of nations on regions is subject to continual change. But Political Geography is stability itself compared with the rough pile of Commercial Geography which caps, if it does not crown, the edifice. Here it is no longer the racial or national viewpoint which determines the conditions, but the individual. The distribution of natural resources is the fundamental condition, and the natural frontier has rarely much in common with the political.

But here a further simile must be brought in. This cap of the pyramid plays the part of a keystone as well, and binds the whole structure together. As rain filtering through a mass of brick or stonework dissolves the mortar of the upper parts, and re-deposits it in the lower courses, so the stream of self-interest permeates the whole structure of Geography, and its results are felt throughout. Commercial motives consolidate national life, accentuate racial differences, redistribute animals and plants, modify physical conditions, start investigations into the nature of the Earth, and even invade the solid groundwork of mathematics with the practical counsels of common-sense.

On the foundation of Mathematical Geography, which supplies a correct topography, the various tiers of Physical Geography must be built. For this the first essential is a correct relief of the land, or rather of the surface of the lithosphere, which in large measure explains the topography by giving meaning to the drainage lines and the arid basins whence there is no escape for the entering water. On this again the geological structure must be superimposed—not that geographers require to make geological observations, but they require to use them in order to fully appreciate the bearing of the land upon dependent distributions. Soil-maps as well as rock-maps are of great importance. Then climatic phenomena, when

ascertained by the meteorologist, have to be laid down on charts, and their dependence on relief and on drainage duly noted. Here also the dynamic element of Geography comes in, for the discussion of land-forms and climate reveals the whole process of the evolution of land-surface features, and affords ground for such generalisations as Professor W. M. Davis * applies to the geographical cycle actuated by elevation and erosion, or to Professor Penck's † classification. Next, from the zoologist and botanist the data for charting the distribution of life as to kind and abundance both in surface and in altitude have to be sought, and the world thus known becomes at once a more complicated and a simpler whole : more complicated in dealing with more numerous facts, simpler by suggesting the harmonious interaction of different orders of phenomena to secure definite results. The transition upwards is easy into Anthro-Geography, in which Man is first considered as an animal in relation to the Earth, and later the Earth is considered in relation to Man. This, the most interesting and complex aspect of Geography, must be taken in detail. The distributions with which it deals are, first, the aggregation of people such as would be shown in a true map of density of population, the explanation of which would be found to some extent in the relief of the land and in the character of the climate and soil. Such a map is obviously true only for a limited time. It shows the result of migrations up to the moment of compilation, and is the geographical expression of the fundamental datum of census returns ; just as a hypso-metrical map shows the result of all previous surface changes. But as the geological map explains and amplifies the hypso-metrical, so the map of density of population must be amplified and elucidated by charting the distribution of different races, and the variations in language, religion, &c., which have been observed. Further, the political partition of the land has to be considered, and here variations are so frequent that maps

* *Journal of Geology*, vol. ii. (1894), p. 66.

† *Morphologie der Erdoberfläche*, 2 vols., Stuttgart, 1894. Also *Report of the Sixth International Geographical Congress*, 1895, pp. 735-752.

rapidly pass out of date. Such political maps were the first to be brought to a state approaching perfection, and the word *map* naturally calls to the mind a map of this description, which is the least instructive of all possible maps, although of no small practical value. The "political" map is almost always a route-map as well, showing roads or railways and navigable waters, thus approximating to the representation of the most fugitive of distributions dealt with in Geography—the commercial value of the Earth's surface as determined by natural productions of economic value, populations distinguished as producers and consumers, and means of communication and transport in all directions. A true commercial map, if it could be produced, would involve every one of the more permanent aspects of Geography variously combined. The new agronomic maps of parts of France make the facts of the geological surveys available directly for agricultural purposes, and so form a step towards the ideal economic or commercial map.

The future work of geographers must lie more in the discussion and co-ordination of different classes of phenomena as regards their distribution and interaction, than in the simple effort to produce a topographical map of high accuracy. The study of Geography must thus increasingly demand a practical acquaintance with many sciences and modes of thought and expression, not for the purpose of carrying on researches in these sciences, but with the object of collecting their results and applying them to the elucidation of the Earth, viewed as the present expression of a definite evolution in which every part is subordinated to the production of a suitable home and sphere of influence for civilised Man.

Viewed in this way, Geography may be employed as a mental discipline in education no whit inferior to other better recognised gymnastics, and more likely than most to lead attentive students to results of practical value. Much remains to be done before existing data have been digested and utilised. That the geographical turn of mind is not necessarily material in its conception of the world it studies, may be readily proved by reference to the works of almost any modern poet. And no

more beautiful instance could be afforded of its literary fruitfulness than Mr R. L. Stevenson's description of how he built up his romance of *Treasure Island* from the basis of a map, and not alone in *Treasure Island*, but in almost all his stories and essays, even in his letters, geographical ideas find fit and graceful expression.

It is not claimed that this statement of the position of Geography is a *résumé* of universally conceded facts, and a promise of beneficial results sure to accrue from further study. It is indeed only an attempt to trace that essential unity of drift in the Earth as an organic whole on which the claim of Geography as a distinct science rests. It strives only to show that Man belongs to the Earth as the Earth belongs to him ; that, in order to attack the problems of adjustment which beset our time, and will inevitably demand increased attention as time goes on, more knowledge of an accurate kind is desirable, and that this knowledge can be supplied when the scope and power of the science of Geography are understood, and advanced study is adequately recognised.

CHAPTER II.

The Teaching of Geography.

MUCH has been written upon the methods of teaching Geography by many people whose qualifications for the task are extremely various. The result is that many different systems of teaching are advocated, and there is a natural tendency for each authority to look on his special view of the subject as the only right one. Approaching the question from the point of view of an examiner, I have been led to believe that different systems of teaching may produce equally good results. In Rudyard Kipling's words, if "tribal lays" may be allowed to stand for "systems of teaching Geography"—

"There are nine-and-sixty ways of constructing tribal lays,
And every single one of them is right."

The first essential is that the teacher should be himself sufficiently instructed in Geography, and conversant with its principles, to be able to present it in the way his own experience shows him to be the best. It is unfortunately true, that even in schools where Geography is formally taught, and its importance presumably recognised, no special qualifications are required of the teacher. Other subjects, Greek and Mathematics for instance, are only taught by persons who, as the result of study, know more about them than the pupils are expected to acquire at school. It is not so with Geography, where teachers often know nothing more of the facts than their pupils have to learn, and are totally ignorant of the principles of the science.

Hints to Teachers and Students

According to the tastes and training of the teacher, one aspect or another of Geography may appeal to him more strongly than the rest, and, arousing his personal interest, enable him to teach it with satisfaction, or even enthusiasm. Any one aspect necessarily involves something of the others, and in any case so little of the facts that are learned at school remains on the filter-paper of the human mind that the precise order or scope of the teaching becomes comparatively unimportant.

So far as mere knowledge of facts is concerned, a minimum might be established without difficulty, which every boy and girl ought to have fixed in their minds as firmly as the multiplication table. This minimum is only suggested as a framework round which innumerable important relations will naturally cluster, without conscious effort of the memory; and whether these relations be cartographical, historical, biological, ethnographical or political, they will prove of value, and be a notable help in other studies, and in the affairs of life.

I am inclined to place the absolute minimum of definite school knowledge at the following :—

Home Country.—The chief rivers and great natural features. The names and positions of the counties (or in the United States, the counties of the home State), all the towns with a population exceeding 50,000 (but not the exact population at any given date). The main lines of railway, and the great junctions or stopping-places of the fastest express trains. The staple products or manufactures on which national prosperity depends.

Europe.—The great systems of mountains and rivers. The names and positions of each country, and the capital of each. The chief component states of the German Empire and the Austro-Hungarian monarchy. All towns with populations exceeding 100,000. The main through-lines of railway connecting the capitals of the various countries with one another, or with their respective seaports.

The World.—The names and positions of all the oceans, continents, and great island-groups. The names and positions of the countries of North America, together with the States of the United States, and the provinces of Canada; the countries of South America; the countries of Asia; the colonies of Australia; the countries and spheres of influence in Africa. The greatest long-distance through-railways, the chief sea-ports, and all towns with a population of over 100,000—except in China, where only those towns of commercial importance need be known.

Put in other words, every pupil on leaving school should be able to draw an outline map of the world showing the continents and islands; an outline map of each continent showing the dominant mountains and rivers (say two great ranges, and from three to five rivers at least), approximately the boundaries of the contained countries, and to mark the great harbours and large towns.

Without this grounding in Geography, no one is fit to take part in business or politics, yet the number of grown-up people who could answer an examination paper, based upon even so rudimentary a syllabus, is small indeed.

I have seen teachers disallow excellent answers in Geography papers with some such remark as—"Probably correct, but could not have been derived from the text-book prescribed." This is an instance of narrow mechanical conceptions of education that need only to be cited to appear ridiculous. I am always inclined, when regulations do not forbid, to give higher marks for answers which could not be taken from any text-book, but are the result of the student's own intelligence, finding facts in the course of general reading or personal observation.

In this respect stamp-collecting should be particularly encouraged, for it enables a boy or girl to learn the names of every country and colony in the civilised world without the smallest effort, and usually the additional circumstances of its language and political form. The symbols or armorial bearings

on stamps which do not show a portrait are always significant of something peculiar to or highly characteristic of the country.

Holiday travels, whether within the limits of the home country or abroad, are of vital importance. It is only by visiting places that their true nature and relations can be fully grasped, and the method of imaginary journeys might very profitably take the place of formal recapitulations of lessons. The change of time between different countries, or different parts of those countries which stretch across continents; the recurrence of meal-hours on ocean steamers at intervals always less than twenty-four hours when sailing eastward, and always more than twenty-four hours when sailing westward, will, if once experienced, serve to impress one of the most difficult facts in Mathematical Geography. Peculiarities of means of locomotion, of industries, of costume, and of language, once observed, fall naturally into their place, strengthening the framework of minimum knowledge. Everything that is instinctively learnt by an intelligent traveller may be taught by a skilful teacher who is interested in reading books of travel, even if circumstances debar him from travelling; and the advantage of teaching of this kind is that the pupil receives each fresh piece of information as something which helps to explain and fix what he has previously learnt, strengthening the memory instead of loading it.

A broad distinction should be drawn between the methods of school teaching, and of University teaching in Geography. The former in my opinion should deal mainly with facts, the latter with relations and causes. In higher classes problems may be set and worked more in the nature of University than of school work, and it is eminently desirable that all teachers should possess that higher knowledge of Geography which will enable them to introduce such problems as are adapted for school use as soon as the proper time comes. If the great natural laws which affect Geography could be discovered by pupils from their own reasoning, the result from the educational point of view would be greatly heightened. For example, if it were shown that in the Galapagos Islands, Tahiti, Samoa,

Fiji, New Caledonia, Java, Madagascar, and St Helena, the wind blows from the south-east almost every day in the year ; while in the Falkland Islands, Crozets, Kerguelen, and the Auckland Islands, it blows as regularly from the west-north-west, the zones of prevailing winds could be *discovered*, and the trades and "brave west winds" ever afterwards hold their place in the memory.

The educational advantages of Geography as a means of mental discipline have been much overlooked ; they belong rather to the higher than the elementary aspects of the subject, and stress may be laid upon them rather for the sake of the self-education of the teacher than the immediate instruction of the pupil. Indirectly, but unmistakably, the advances of the teacher will react on the class, simplifying difficulties by timely explanations, and laying the indispensable foundation, so that it leaves his hands ready for the superstructure which can only be raised through advanced study.

The use of class-books is a subject on which opinion differs widely. The teacher should of course have a text-book for personal study and for reference ; but the balance of expert opinion seems to incline to reserve the use of a class-book for pupils to a comparatively late stage. Preliminary ideas on space and time relations, and the practical Geography of the immediate surroundings of a child should be conveyed orally, and it is probably better at first to frame this teaching, so as to arouse and satisfy curiosity rather than to exercise the memory. In the later stages where the class-book comes in it should be a simpler work than the teacher's text-book, and it should be handled with discretion, and in close relation with maps and a globe.

Date is one of the most important features to notice in a book on any branch of Geography or travel. The date at which a journey was made, or a book written, should always be recorded as well as the year of publication. While most of the physical features of a country are practically invariable ; some, such as the coast-line and the course of rivers on nearly level plains, are subject to great changes within periods which are historically short. Statistics also rapidly grow old, and all

statements as to population, resources, industries, and commerce, require frequent revision if they are to remain trustworthy. In many cases the bad effects of a remote date are more than overcome by the knowledge of it. For instance, a description of Africa as known in 1837, becomes valuable as a standard for measuring the progress of explorations in the last sixty years. All undated books should be avoided ; in the case of school-books particularly, one may be quite sure that the date is not suppressed in the interests of the purchaser.

No intelligent teacher need fear to experiment in the application of his own methods of teaching Geography, from the fear of making the instruction worse instead of better. There is a certain stage at which any change is necessarily for the better. Signs are happily not wanting that this stage is now being gradually left behind, but as yet it has not in average schools been left very far behind.

In consulting the books and papers, the titles of which follow, much allowance must be made for the personal opinions of the authors, and also for the particular class and age of pupils for whom the methods are recommended.

The standard work on Geographical education is the *Report* by Dr Scott Keltie, now unfortunately out of print, but occasionally to be obtained second-hand ; and the book which will perhaps be found most generally useful and stimulating is Sir Archibald Geikie's little *Teaching of Geography*. Special attention must also be called to Mr A. J. Herbertson's excellent series of articles in the *Scottish Geographical Magazine* for 1896, the bibliographies in which have been of use in preparing the following list. A Report presented to the Geographical section of the British Association for the Advancement of Science in 1897, drawn up by Mr Herbertson as secretary of a special Committee,* may be looked upon as a supplement to Dr Keltie's *Report*, bringing the question of Geography teaching in schools up to date.

* The members of this Committee were :— Mr H. J. Mackinder (*Chairman*), Mr A. J. Herbertson (*Secretary*), Dr J. Scott Keltie, Dr H. R. Mill, Mr E. G. Ravenstein, and Mr Eli Sowerbutts.

BOOKS ON METHODS OF TEACHING GEOGRAPHY.

BURROWS, Rev. F. B. On some Methods of Teaching Geography (Reprinted from the *Parents' Review*, 1896) Philip & Son. Price 6d.

Refers specially to Geography in preparatory schools.

DICKINSON, B. BENTHAM. Geography as a School Subject: an Attempt to show that Geography can be Taught as a Training of the Mind. Published by the Geographical Association, 1896. Philip & Son. Price 6d.

Mr Dickinson describes the method of teaching he adopts at Rugby. For address of Geographical Association, see *ante*, p. 6.

GEIKIE, Sir ARCHIBALD. The Teaching of Geography: Suggestions regarding Principles and Methods for the Use of Teachers. Second Edition. Macmillan, 1892. Price 2s.

An excellent guide. Geography is viewed as including rather more of general observational science than some will be prepared to concede; but each reader may select the part most likely to be of service in his particular circumstances.

GÜNTHER, S., and A. KIRCHHOFF. Didaktik und Methodik des Geographie-Unterrichts (mathematische und allgemeine Geographie). Sonderausgabe aus Dr A. Baummeister's *Handbuch der Erziehungs- und Unterrichtslehre für höhere Schulen*. Munich: Oscar Beck, 1895. Price 3s.

The most recent German work on the methods of teaching Geography in schools. An article founded on it, "Geography in the Schools," appears in the *Scot. Geog. Mag.*, vol. xii. 1896.

JOLLY, W. The Realistic Teaching of Geography: its Principles, especially in regard to Initiatory Notions; the Correction of Prevalent Errors; and Examples of Simple Demonstrative and Dramatic Methods. Blackie & Son, 1837. Price 1s.

Based on a lecture delivered during the exhibition of Dr Scott Keltie's collection of geographical appliances and books. Mr Jolly, as a school inspector of long experience, speaks from full knowledge of the defects of the usual methods of teaching.

KELTIE, J. SCOTT. *Geographical Education: Report to the Council of the Royal Geographical Society.* Murray, 1886. Price 7s. 6d.

This serves as a landmark in the history of geographical teaching, giving a concise review of the educational systems of the chief continental countries and of the United Kingdom in 1884-85. The collection of books, atlases, maps, globes, &c., made by Dr Keltie for this report, after having been exhibited in London, Edinburgh, Manchester, and other places, is now in the Museum of the Teachers' Guild, 74 Gower Street, London, W.C., where it may be inspected.

MONTEFIORE [-BRICE], A. *Geographical Methods: a Chapter of Suggestions.* *Educational Review*, 1895. Price 6d.

PARKER, FRANCIS W. *How to Study Geography.* New York, Appleton, 1889; London, E. Arnold. Price 6s.

This book is full of useful hints.

REPORT of the Committee of Ten on Secondary School Studies; with Reports of the Conferences Arranged by the Committee. New York: American Book Company, 1894. Price *ca.* 5s.

Contains amongst other subjects a report on the teaching of Geography, mainly with reference to physiography.

SPENCER, F. S. (Editor). *Chapters on the Aims and Practice of Teaching.* Cambridge University Press, 1897. Price 6s.

The chapter on Geography by Mr Yule Oldham is useful.

DIE GEOGRAPHISCHE ZEITUNG. Herausgegeben von Dr Hettner.

Published monthly in Leipzig, since 1895, contains many valuable papers on Educational Geography. Price 1s. per monthly part.

THE JOURNAL OF SCHOOL GEOGRAPHY. Edited by Professor Dodge.

This is a monthly journal of high class and low price, devoted entirely to the subject. It was commenced in 1897, and costs one dollar per annum. Address—41 North Queen Street, Lancaster, Penn., U.S.A.

A SERIES of Memoirs by Professor E. Levasseur (in French), Professor R. Lehmann (in German), and Mr A. J. Herbertson (in English), dealing with the Educational Methods employed in France, Germany, and Great Britain, appears in the Report of the Sixth International Geographical Congress, London. Murray, 1896. Price 20s.

PAPERS IN RECENT VOLUMES OF BRITISH
GEOGRAPHICAL PUBLICATIONS, BEARING ON
METHODS OF TEACHING GEOGRAPHY.

- ANDREWS, A. W. The Teaching of Geography in relation to History. *Geog. Journ.*, vol. ix. 1897.
- BLAIKIE, W. B. How Maps are Made. *Scot. Geog. Mag.*, vol. vii. 1891.
- DUFF, Sir M. E. GRANT. On the Educational Work of the Royal Geographical Society. *Proceedings R.G.S.*, vol. xiv. 1892.
- FRESHFIELD, D. W. The Place of Geography in Education. *Proceedings R.G.S.*, vol. viii. 1886.
- GOLDSMID, Sir F. J. On the Means of Popularising the Study of Geography. *Proceedings R.G.S.*, vol. viii. 1886.
- HERBERTSON, A. J. Geographical Education. *Scot. Geog. Mag.*, vol. xii. 1896.
- HINDSHAW, R. C. On the Use of Models in Teaching Elementary Geography. *Journ. Manchester Geog. Soc.*, vol. ii. 1887.
- KELTIE, J. SCOTT. Geographical Education. *Scot. Geog. Mag.*, vol. i. 1885.
- Geographical Education on the Continent. *Journ. Manchester Geog. Soc.*, vol. ii. 1887.
- LAURIE, S. S. Method Applied to the Teaching of Geography in the School. *Scot. Geog. Mag.*, vol. ii. 1886.
- MACKINDER, H. J. On the Scope and Methods of Geography. *Proceedings R.G.S.*, vol. ix. 1887.
- The Teaching of Geography at the Universities. *Proceedings R.G.S.*, vol. ix. 1887.
- Modern Geography, German and English. *Geog. Journ.*, vol. vi., 1895; and *Scot. Geog. Mag.*, vol. xi. 1895.
- The Physical Basis of Political Geography. *Scot. Geog. Mag.*, vol. vi. 1890.

- MACKINDER, H. J. The Necessity of Thorough Teaching in General Geography, as Preliminary to Teaching Commercial Geography. *Journ. Manchester Geog. Soc.*, vol. vi. 1890.
- MILL, H. R. Scientific Earth Knowledge as an Aid to Commerce. *Scot. Geog. Mag.*, vol. v. 1889.
- On the Teaching of Geography in Russia. *Journ. Manchester Geog. Soc.*, vol. vi. 1890.
- Commercial Geography. Summary of Lectures. *Geog. Journ.*, vol. iii. 1894.
- RAVENSTEIN, E. G. The Field of Geography. *Proceedings R.G.S.*, vol. xiii. 1891.
- ROUSIERS, PAUL DE. The Teaching of Geography and Social Science. *Scot. Geog. Mag.*, vol. viii. 1892.
- SILBERBACH, J. H. The Teaching of Elementary Commercial Geography in Primary and Secondary Schools. *Journ. Manchester Geog. Soc.*, vol. v. 1889.
- STURGEON, M. K. The Teaching of Elementary Geography, a Practical Lesson with Models. *Journ. Manchester Geog. Soc.*, vol. iii. 1887.
- WAGNER, H. The Teaching of Geography in Germany. *Scot. Geog. Mag.*, vol. ix. 1893.
- WARREN, Sir C. Address on Geographical Education. *Proceedings R.G.S.*, vol. ix., 1887; and *Journ. Manchester Geog. Soc.*, vol. iii. 1887.
- YEATS, J. Relations between Commercial History and Geography. *Journ. Manchester Geog. Soc.*, vol. ii. 1886.
- Shaler N. S. Practical methods of Teaching Geography, *Proc. N.E.A.* 1903.
p. 848
- Salisbury, Rollin, D. - The teaching of Geography - A criticism and a suggestion. - (*Educational Bi-Monthly*)
June 1909

CHAPTER III.

The Choice of Text-Books.

IT is not without reluctance that I venture to introduce a list of representative school-books. The list must not be taken as a critical selection. Many excellent books are undoubtedly omitted, and all those mentioned may not be found equally satisfactory. The use by pupils of a class-book is always intended to supplement the work of an intelligent teacher, who ought to be able to neutralise any minor errors which it may contain. For the private study of the teacher, and, perhaps for use in the higher classes, an advanced text-book is extremely desirable. Such a work ought to be encyclopædic in character, each section by an author of undoubted authority, and it could hardly be the work of one hand. Although such a book may not be found in a single volume,* it is possible for the teacher to secure an efficient substitute by selecting several books which, between them, cover the whole ground.

In this connection it may be useful to quote the decision arrived at by a Joint-Committee of the Teachers' Guild and the Geographical Association, in March 1897 :—

* *The New International Geography*, written by the leading Geographers of the world, and edited by Dr H. R. Mill, has been undertaken by George Newnes Limited with a view to supplying a work of the kind indicated.

THE TEACHERS' GUILD'S ADVICE WITH REGARD TO BOOKS ON GEOGRAPHY.

I. In the Lower Forms of Schools. (Age 7 or 8 to 10.)

- (a.) The geography teaching should lead up from a particular study of the locality to a general knowledge of the physical features of the Earth as preliminary to the treatment of any particular countries.
- (b.) The pupil should have no book.
- (c.) If a book be needed for the teacher, it should be one which will help him to treat the child's surroundings effectively.

II. In the Middle Forms. (Age 10 to 12 or 13.)

- (a.) The teacher's book should carry on the subject on the same lines as in the lower forms, treating physical features in greater detail, and also the effect of these features on the human and other life which exists amidst them, and the influence of that life on them. The subject should then be treated under three aspects—(1) Commercial, (2) Political, (3) Historical Geography. Of these (1), begun, as a rule, rather sooner than (2) or (3), should be in accordance with the distribution of land-areas (continents or groups of continents), while (2) and (3) will necessitate the division of the land-areas into separate countries. Stress should constantly be laid on the effects of Physical Geography.
- (b.) The pupil's book should not be so full of detail as the teacher's book, but, on the other hand, should not be so tabulated as to lend itself to being merely learnt by heart. It might be brought into use at about the age of twelve years. The study

On the Choice of Geographical Books. 33

of climate and of the Earth as a planet, might be introduced during the later years of this period, bringing in with it a more formally scientific system of Physical Geography.

III. In the Higher Forms. (Age 12 or 13 and onwards.)

- (a.) There should be a fuller treatment of Political Geography in close connection with Commercial and Historical Geography, together with so much of Mathematical Geography as will give more detailed information and more exact ideas regarding such matters as the form and size of the Earth, the alternation of day and night, the seasons, determination of latitude and longitude, and time, passing on to the measurement of the Earth and map-projections.
- (b.) *The Teacher's Book* should contain lists of books of reference of various kinds which the teacher may consult ; also hints on different methods of teaching, including the use of blackboard drawing, lantern-slides, pictures, and photographs.
- (c.) *The Pupil's Book*. It is extremely valuable for the pupil to have standards of area, distance, and height for illustration and comparison, but mere lists of disconnected facts should not be introduced. Varieties of type should be sparingly used.
- (d.) Lists of questions at the end of chapters, though sometimes helpful to the teacher, ought not to be included in the pupil's book, unless they are in the nature of problems. All text-books should be dated and frequently revised.

It cannot be expected that all the desiderata indicated above for teacher's or pupil's books will be found in any given volume. They serve rather as standards by which the quality of existing books may be judged. Anonymous works are

always to be viewed with suspicion, unless they be of no higher grade than "readers," compiled from existing books. An undated Geography text-book should never be purchased, and it would be well if teachers, anxious to have the best and latest information, would always test the nominal date on the title-page by reference to some recent changes which ought to be noticed in the text. The practice of dating the title-page with the year when a book is printed, perhaps from stereotype plates that have not been revised for years, is not unknown.

The teacher or advanced student should endeavour to keep up his information to date by frequent and systematic reference to periodical publications, not only to year-books and the monthly journals of geographical societies, but to weekly and daily papers as well. In France, Germany, and Italy, there are excellent weekly illustrated papers exclusively devoted to Geography, but there is nothing of the kind in English. A good deal of interesting information may be derived from the weekly illustrated newspapers, but the daily paper is the best, and indeed an indispensable companion of the text-book. A series of newspaper cuttings, properly classified and dated, and provided with a good index, constitutes an invaluable book of reference. Of all papers *The Times* is the best in this respect, on account of the number of authoritative special articles it contains, and the summaries of Consular Reports, of which it makes a special feature. *The Times, weekly edition*, price 2d., published every Friday, contains all the most important geographical articles and notes which appear in the daily issue.

The following list contains only books of moderate size designed for use in schools. The more comprehensive works are included under the later heading of books for general reference and reading.

It may be that some excellent school-books exist without having come under my notice. I am as a rule acquainted only with books which the publishers consider of such a quality as to be worthy of preservation in the Library of the Royal Geographical Society.

REPRESENTATIVE TEXT-BOOKS.

APPLETON'S GEOGRAPHIES. New York : Appletons.

Specimens of the text-atlas type of school-book, which has established itself in the United States.

ARNOLD-FORSTER, H. O. *This World of Ours : an Introduction to the Study of Geography.* Cassell. New Edition, 1897. Price 2s. 6d.

A remarkably clear and attractive elementary exposition of the principles of Geography. Well adapted for reading in schools.

BAKER, W. G. *Realistic Elementary Geography, Taught by Picture and Plan.* Blackie & Son. Price 1s. 9d.

A well-arranged elementary class-book.

CHISHOLM, G. G. *Longman's School Geography.* Special Editions for Great Britain, India, South Africa, North America, and Australasia. Longmans. Price 3s. 6d.

This is one of the best modern class-books of general Geography. In the various editions, the chief place is given to the home country of the pupils for whom it is intended. The collaboration of an expert resident in each of the countries for which there is a special edition, ensures accuracy of detail.

FRYE, A. E. *Primary Geography.* Boston : Ginn & Co.

— *Complete Geography ; with Supplement, the New England States,* by W. Morris Davis. Boston : Ginn & Co.

These are amongst the best school Geographies on the American plan. They are being adapted for use in this country by Mr A. J. Herbertson, and will be published by E. Arnold.

GROVE, Sir G. *Primer of Geography.* Macmillan. Price 1s.

A charming little book, singularly lucid in its explanations, and quite free from the objectionable qualities of most small books on great subjects.

JOHNSTON, KEITH. *Physical, Historical, Political, and Descriptive Geography.* Fifth Edition, revised by A. H. Keane. Stanford, 1896. Price 12s.

Teachers will find this a very useful text-book. The sketch of Historical Geography, though much condensed, is the best which is to be found in the English language, and the whole is illustrated by excellent maps. The cheaper edition (price 6s.), omitting a large part of the work, might be useful as an advanced class-book.

KIEPERT, A. *Manual of Ancient Geography.* Macmillan.
Price 5s.

Only recommended when Classical Geography is being studied.

KIRCHHOFF, A. *A School Geography. Junior Course.* Swan
Sonnenschein. Price 2s. 6d.

An adaptation of one of the most widely used German school-books.

— *Erdkunde für Schulen nach den für Preussen gültigen Lehrzielen.* I. Teil, Unterstufe. II. Teil, Mittel- und Oberstufe. Halle: Waisenhaus, 1894. Price, Part 1, 8d.; Part 2, 1s. 6d.

A set of graduated school-books illustrative of the highest class of German text-book, well worthy of study from the points of view of arrangement and method as well as for the contents.

LONGMAN'S Geographical Series. Longmans, 1896.

Well-planned class-books on a definite system, with coloured maps in the text, but anonymous.

MEIKLEJOHN, J. M. D. *A New Geography on the Comparative Method.* Simpkin, Marshall, & Co. Price 4s. 6d.

The work of an experienced educationist, adapted for use as a teacher's book. It excels in its method and arrangement, rather than in the selection or verification of facts.

MILL, H. R. *An Elementary Class-Book of General Geography.* Revised 1896. Macmillan. Price 3s. 6d.

An attempt to describe the whole world on a uniform scale, as picturesquely as is consistent with accuracy.

WETHEY, E. R. *Manuals of Geography.* Europe, price 2s. 6d.; Asia, price 2s.; North America and West Indies, price 1s. 6d. Rivington.

Experiments in original methods of teaching by a practical teacher of Geography.

CHAPTER IV.

Atlases and Means of Illustration.

OF all works of reference in Geography an atlas is the most indispensable, and for all purposes in the class an atlas should accompany the book used by the pupils. The same atlas cannot well be used for both purposes, and hence reference and school atlases must be considered separately.

The reference atlas should be as full, and the maps it contains on as large a scale, as can be procured. No really good reference atlas can be very cheap, and when an atlas costing only a few shillings is advertised as containing a very large number of plates, the intending purchaser would do well to refrain. Such atlases can only be produced by the use of old plates, and cases are known in which the condemned plates of an old atlas, which had been good in its day, have been purchased, clumsily altered in a few places, and used to print a cheap edition with a new and attractive title. If teachers, who are perhaps the chief purchasers of cheap reference atlases, knew how to test the maps before they buy them, a nearly fatal blow would be dealt at a serious evil. It sometimes happens that a mistaken feeling of patriotism induces people to prefer cheap and poor British atlases to superior work produced at nearly as low a price in other countries. It would benefit British cartographers far more if the public were to buy good German maps and atlases, instead of inferior home productions. By doing so the standard of excellence demanded would be raised, and the best home work would be more fully appreciated, and more willingly purchased than

before. In consequence of the greedy demand for cheap and unworthy atlases, the idea has arisen that the best maps cannot be produced in this country. This is a mistake. They cannot be produced so cheaply as in Germany on account of the higher rate of wages and greater cost of materials; but with an intelligent demand for good work, and a discriminating rejection of bad work, British map-makers would be encouraged to produce as a matter of course fine maps such as they can only publish at present at a loss. A foreign atlas may be used more easily than a foreign book, for the names are usually given in their native form, *e.g.*, in a German atlas the names on the map of France are in French, those on the maps of the British Isles and the United States in English.

It is a very rare thing to see an intelligent criticism of an atlas in an English paper; and, profiting by experience of the way in which the "reviewer" forms his judgment, the compilers of atlases have too often fallen into the objectionable practice of prefixing a laudatory preface in which the good points are dilated upon unduly, and the bad points, which are perhaps more numerous, are passed over quietly.

The first thing to notice in any atlas is the selection of maps and their scale. If it were possible to have the whole world represented on the same scale, and that a fairly large one, it would certainly be best; but in existing conditions all that one can hope for is to find the most important places shown on the largest scale, and all places of equal importance on the same scale. For example, in an atlas intended for the British public, the continents of Asia, Africa, North America, South America, and Australasia, should be shown drawn on the same scale. Europe should be shown on a larger scale on account of the small size and great number of its countries. For country maps the British Islands should appear on the largest scale of all. The British Colonies, India, and the United States, should be given on a scale large enough to show the counties or corresponding subdivisions, and not much smaller than the separate countries of Europe; all of which, with the necessary exception of Russia, should be on

one common scale. In a reference atlas the maps of continents should always be in duplicate, one copy filled with physical, the other with political detail. A physical map of the British Isles, and the United States, ought also to appear on a scale smaller than the detailed map, which must necessarily show political divisions with the greatest distinctness. A map of the Arctic and of the Antarctic regions, a chart of the world on Mercator's projection, and a good-sized map of the world in hemispheres, should be insisted on as a minimum of general maps. Star charts and diagrams of eclipses and of the solar system are out of place in a reference atlas, although they may appropriately appear in one devoted to Physical Geography.

Next to the selection and scale of the maps the most important point is the choice of names, and the date to which the work has been brought down. For the purpose of testing this the best plan is to take a number of names from the shipping news, and from the foreign intelligence of a newspaper, avoiding such as could not reasonably be expected to figure in an atlas (*e.g.*, villages passed by an expedition in a little known country), and look for them in the index, and, by the indication there given, on the map. If less than 75 per cent. of the names looked for are found, the atlas should not be purchased. On the larger scaled maps, all the places which the intending purchaser has personally visited should be looked up, and the routes of his own journeys traced carefully. Thus, mistakes such as placing a railway or a town on the wrong side of a river may possibly be detected.

Much attention should be given to the appearance of the maps; and an unfavourable opinion is justified if the rivers are indistinguishable from roads or railways or boundary lines; if the names are indistinctly printed, or the precise point each refers to is left in doubt; if the colours are crude, or if they are not distinguishable one from another by artificial light; above all if the "register" is defective, *i.e.*, if the colours are not correctly superimposed, but spread beyond or fall short of the limits they should occupy.

Only experience can guide the critic of maps, and he may make his first attempts by purchasing the cheapest atlas he can find, and examining it to find how far it answers the requirements mentioned above. If, as may very well happen, defects are found in an atlas otherwise good, the publisher or cartographer will welcome a polite letter pointing them out. The chances are that he already knows of them; but evidence of the fact that he is working for an alert and intelligent public has always a wholesome effect.

With regard to school atlases intended for the use of pupils in the class or during preparation, a different series of criteria have to be taken into account. Considerations of cost demand that the number of maps should be comparatively small, hence clearness of drawing and legibility of printing are apt to be sacrificed. Clearness and legibility are absolutely essential, and they must be attained at the cost of simplifying outlines, and omitting the less important names. The physical features of all countries should be shown clearly, preferably on different maps from those giving such political conditions as are necessary, but on the same scale. The elements of height may be shown either by contours with graduated tints or by hachuring. The plan of showing all the land below a certain level deep green, and all above it dark brown is educationally undesirable, for it irresistibly suggests some sudden physical change at the boundary line. If contours are used they should be numerous, every 100 feet if possible, never less than every 1,000 feet, and the colouring should follow them in gradations as delicate as possible. Good hill-shading by hachures is very expensive, and cannot be looked for in a school atlas, but on contoured maps the introduction of a few hachures on steep slopes serves to distinguish mountain sides from plateaux. Geological maps are too complicated to be desirable features in a school atlas, unless they are simplified to the last degree, as for example in a map of England, showing simply the coal measures, the rocks older than the coal, and the rocks more recent than the coal.

Outline maps are to be purchased from several publishers,

although at a ridiculously high price. They form an invaluable adjunct to the school atlas, and the teacher should practise the colouring of such maps so as to present a variety of different distributions each on a separate map. It is important that pupils should early recognise that an outline map is a form which may be filled in many different ways, and that lines and colours may be used to represent the distribution of many different things and conditions.

Wall maps are prepared by several map publishers. Their purpose in schools should be diagrammatic, and they ought not to compete with the reference atlas in fulness of detail or fineness of execution. They should rather be enlargements of the school atlas, bold outlines with very few names, and very distinct boundary lines. German wall maps as a rule are both better and cheaper than those hitherto made in this country. If such maps are demanded in sufficient number of British cartographers, they will be produced both good and cheap; but the map maker must be taught to cater for a critical and intelligent public before he will cease to try to induce the public to accept what it is easiest for him to supply.

Globes have fallen into undeserved and most regrettable neglect. They are found in most schools, but too often hidden away in cupboards, or mounted on high shelves, or gracing landings on the stairs. Their use should be revived and extended. Small globes of 4 or 6 inches diameter may be purchased for a few shillings, and they ought to be placed in the hands of every scholar. A neat globe would be a most appropriate prize, far more useful than many books which are manufactured only to be presented and thrown aside. Every schoolroom should contain a terrestrial globe of at least 18 inches diameter, and preferably two, one coloured physically, the other politically. A fine old-fashioned globe originally priced at £10 or £15, may often be purchased for 10s. or less second hand. If it is well mounted it is as good as a new one, for the globe is used for working simple problems in Mathematical Geography, not for the purposes of a reference atlas. Valuable demonstrations of distances and directions

may be made by measuring on a globe and on a Mercator chart of the same equatorial scale. It is remarkable how the apparent anomaly of a great circle course being the shortest disappears when a globe is brought into use.

Relief globes on which the irregularities of the Earth's surface are represented in highly exaggerated relief are not to be recommended. A pin might be stuck into an ordinary globe, and a hole bored in it to represent on a true scale the maximum height of land and depth of sea. For an 18-inch globe, the height and depth would be $\frac{1}{80}$ of an inch each, or about the thickness of the paper on which the gores of the globe are printed.

Relief maps may be found useful in special cases if the exaggeration of vertical scale is not greater than three times the horizontal scale.

A celestial globe is unnecessary. The representation of the stars on a convex surface requires a logical power to refer them to their true places which should not be demanded of school children. If a celestial hemisphere mounted like an umbrella to show the stars on a concave surface can be procured, it might be found very useful.

Many pieces of apparatus have been devised for illustrating the movements of the Earth and the heavenly bodies. Many of these are costly and complicated, and all are open to the objection that their incautious use is apt to lead the pupil to suppose that the Earth is held in its course by some system of material mechanism. If any such apparatus are used they should be as simple as possible. The Geodoscope of Miss Gregory, which shows a little terrestrial globe inside a large glass globe on which some of the stars are shown, is one the intelligent use of which will be found advantageous. It and many other similar appliances are sold by Messrs G. Philip & Son, 32 Fleet Street, London, E.C. The highly ingenious Cosmosphere of Mr W. B. Blaikie is more likely to be used for teaching astronomy than Geography, but if available it would prove invaluable for advanced pupils. A set of wire models to illustrate map projections by shadows, designed by

Mr A. J. Herbertson, greatly simplifies the teaching of map projections, and facilitates comparisons between the globe and maps.

For class demonstration it is convenient to have black-board maps and globe on which the outlines of the land are painted, leaving the details to be filled in with coloured chalk. When a teacher can draw easily and correctly, he will find it better to use the blackboard, and draw the map bit by bit as the lesson proceeds; or, he may use coloured crayons on a large pad of white paper, from which sheet after sheet may be torn as it is done with.

It would be going beyond the scope of this work to enter into the subject of geographical pictures, beyond saying that well-selected photographs or lantern slides are better than coloured wall pictures. Photography is now so general a recreation that teachers and senior pupils could easily form collections of geographical views, and the search for characteristic features and the best view-points would in itself be an admirable training in practical Geography.

If a lantern is used, statistical diagrams of a striking kind and diagram maps may easily be prepared as slides at very trifling expense by any one who can draw. Ink or water-colours thickened with gum may be used on clear glass, and if transparent colours are selected, the result is very satisfactory. Ground glass drawn on with pencil and varnished, glass covered with a coloured film on which the design may be scratched, or even a plain card cut into a stencil-plate by a sharp penknife, all furnish satisfactory results.

REPRESENTATIVE ATLASES AND MAPS.

BARTHOLOMEW, J. G. Library Reference Atlas. Macmillan.
Price 52s. 6d.

An excellent reference atlas, very clear and full, with more space devoted to India, the Colonies, and the United States than is usual ; and a full index.

— **Macmillan's School Atlas, Physical and Political.** Macmillan. Price 8s. 6d.

The maps are clearer and better printed than in most school atlases.

— **The Handy Reference Atlas.** Walker, 1896. Price 7s. 6d.

Peculiarly rich in plans of towns, and enlargements of interesting regions.

— **Atlas of Scotland.** Bartholomew & Co. Price 40s.

This is mentioned as the most perfect existing example of a modern atlas on a large scale for a small area. It is remarkable for its fine physical maps. A similar atlas of England is promised.

— **Atlas of Commercial Geography.** Preface by H. R. Mill. Cambridge University Press. Price 3s. 6d.

BUTLER, G. Public Schools Atlas of Ancient Geography. Longmans. Price 7s. 6d.

CHISHOLM, G. G. Longman's New Atlas, Political and Physical, for the Use of Schools and Private Persons. Longmans. 12s. 6d.

This was the first atlas produced in this country on the lines of the German school atlases. Every map was specially drawn, and educational needs dominated the whole plan and execution of the work, which has met with deserved approval.

COLBECK, C. Historical Atlas for Schools. Longmans. Price 5s.

GARDINER, S. R. School Atlas of English History. Longmans. Price 5s.

Useful for class work.

On the Choice of Geographical Books. 45

HABENICHT, H. Taschen-Atlas. New Edition almost every Year. Gotha : J. Perthes. Price 2s. 6d.

A gem of cartography. The maps are miniatures of some of those in Stieler's Atlas, and show the highest class of hill-shading. The atlas may be obtained through any bookseller.

HIRT, F. Geographischen Bildertafeln : (1) Allgemeine Erdkunde ; (2) Typische Landschaften ; (3) Spezielle Ethnographie. Breslau : Hirt. Price *ca.* 15s.

These are pictures of typical geographical features, and ethnographic types for exhibition in class.

JOHNSTON, W. & A. K. Handy Royal Atlas. Index to each Sheet. Johnston. Price 5s. 6d.

A reduction of the famous Royal Atlas, and suitable for reference.

— **Cosmographic Atlas.** Johnston. Price 21s.

This atlas does not appear in the later lists of the publisher ; but on account of the large size of sheet it had the great convenience of showing maps of the continents on an unusually large scale.

LABBERTON, R. H. Historical Atlas and General History. Macmillan. Price 15s.

A useful historical atlas for the teacher.

ORDNANCE SURVEY MAPS.

Every school should possess the sheets of the Ordnance Survey maps containing its district, if possible on the three scales of (1) 25 inches to 1 mile, (2) 6 inches to 1 mile, (3) 1 inch to 1 mile. The number of sheets necessary on each scale will depend on the position of the street or town upon the sheet. Both the contoured and the hill-shaded editions of the 1-inch map should be procured. It would be found useful to have specimen sheets of different types of country to use as geographical illustrations. Any bookseller may order these maps direct from the Ordnance Survey Office, Southampton. There are agents in all large towns, and maps may also be ordered at a certain number of rural post-offices in the United Kingdom ; but a complete set of the maps of England will be found in stock at Mr Edward Stanford's, 27 Cockspur Street, London, S.W. ; those of Scotland at Messrs John Menzies & Co.'s, 12 Hanover Street, Edinburgh ; and those of Ireland at Messrs Hodges, Figgis, & Co.'s, 104 Grafton Street, Dublin. The complete list of agents is given in a blue-book entitled "Ordnance Survey Maps, 1897 [C-8488]." Price 2d. To be obtained from Eyre & Spottiswoode, 32 Abingdon Street, London, S.W., or from the Scottish and Irish agents named above. The sheets of the 1-inch map for England and Ireland cost 1s. each, those for Scotland (double the size) cost 1s. 9d. The usual price per sheet of the 6-inch map is 2s. 6d.

PROCTOR, R. A. Student's Atlas in Twelve Circular Maps.
Longmans, 1889. Price *ca.* 5s.

This atlas is of unique value, as it shows the whole world on a uniform scale, which is, however, unfortunately a very small one. The projection adopted gives the minimum of distortion.

RAVENSTEIN, E. G. Systematic Atlas. Philip. Price 15s.
Special Edition Abridged for School Use. Price 10s. 6d.

The most ambitious of recent school atlases of modern type. An immense number of small inset maps is given. The discussion of map projections in the preface is the best elementary treatment of the subject which has been published.

STIELER'S Hand Atlas. Gotha: J. Perthes. Price 63s.

This atlas is kept up to date, being subject to constant revision, and separate sheets may be had, price 1s. each. It is the best and cheapest atlas in existence, having regard to its accuracy, well-selected scales, and fine workmanship.

SYDOW-WAGNER'S Methodische Schulatlas. Gotha: J. Perthes.
Price 5s.

A beautiful piece of work. The model on which most of the modern school atlases in Europe have been based.

TIMES Atlas. *Times* Office. Price 25s.

A translation of Andree's German Atlas, with a few additional maps of British possessions. The German standpoint dominates the maps of Europe. Some parts of Germany are shown on a larger scale than any part of the British Isles. It is the cheapest atlas of its size to be had.

VAN KAMPEN, A. Atlas Antiquus. Gotha: J. Perthes. Price
2s. 6d.

A classical atlas, uniform with the *Taschen-Atlas*. A special edition is published in English.

CHAPTER V.

Works of Reference on Geography.

THERE is in English no single work devoted to a complete summary of Geography on an adequate scale since *Bell's Geography* passed out of date ; nothing similar, for example, to Reclus' great work in French. There are several compilations, some of a pretentious character, but for the most part these are imperfect adaptations from foreign works done by literary men without special geographical training or knowledge. *Stanford's Compendium of Geography and Travel*, originally an adaptation from the German, will be, when the new rewritten edition is complete, the best book of the kind available.

It is not implied that foreign works on Geography are inferior to English,—as a rule the converse holds good,—but the books which have been translated are usually popular works written not to satisfy the scientific sense of the author, but to appeal to the popular imagination of his country. While a scientific book may be translated without loss, a popular work, especially one written from a patriotic standpoint, always goes lamely in a foreign garb.

Our excellent encyclopædias go some distance to make up for the want of such a geographical dictionary as that of Vivien de St Martin, while *Longman's Gazetteer* is absolutely the best of equal scope yet produced in any language.

There is a certain art in the use of works of reference which only comes by practice. A very common danger is to be



tempted into reading something else when looking up a special point, and this forms perhaps the most serious difficulty in the use of encyclopædias, the articles in which possess a varied and attractive interest. As a general rule it is safe to advise the first reference regarding any geographical point to be to the Atlas. If a place is looked for and not found either in the index or on the map, the fact should be noted on the fly-leaf or on the margin of the index. Then look up a gazetteer or encyclopædia, trying different spellings if the required name is not found at once, and after getting all information from that source, finally refer to the book of indexed newspaper cuttings, if one is kept, for the latest information. The Index to the fourteen volumes of the *Proceedings* of the Royal Geographical Society (new series), covering the period 1879 to 1892, is a store-house of geographical information for that period. The set of fourteen bound volumes of the *Proceedings* is offered by the Royal Geographical Society at the very small cost of £5.

With regard to the form of geographical names, it is useful to remember that variations are due to several causes—(1) to the use of names in different languages, *e.g.*, Rome, Roma, Rom ; Florence, Firenze ; Venice, Venezia, Venedig ; Vienna, Wien ; Munich, München, Monica ; Germany, Deutschland, Allemagne, and so on ; (2) to different methods of transliteration from non-Roman alphabets,—as Thackeray put it, with regard to Kiev :

“ For if you looks in the g'ography books,
In those dictionaries the name it varies ;
And they write it off, Kieff or Kioff,
Kiova or Kiow ; ”—

or as in the innumerable variations of Indian names ; (3) to different methods of representing the same sounds in reproducing phonetically names which do not belong to an alphabetic language. In this case the main divergence is due to the different forms used in French, German, and English, and to the unthinking transference without alteration of names from one of these languages to another. Thus the name Ujiji

is transcribed by a Frenchman Oudjidji, by a German Udschidschi, and it might be in English Oojeejee, but in each case the pronunciation is the same. Definite rules introduced by the Royal Geographical Society have been very widely recognised as authoritative both in Great Britain, in the Colonies, the United States, and to a certain degree in Germany. These rules are as follows :—

ORTHOGRAPHY OF GEOGRAPHICAL NAMES.

(REVISED 1894.)

In 1878 the Council of the Royal Geographical Society, impressed with the necessity of endeavouring to reduce the confusion existing in British maps with regard to the spelling of geographical names, in consequence of the variety of systems of orthography used by travellers and others to represent the sound of native place-names in different parts of the world, formally adopted the general principle which had been long used by many, and the recognition of which had been steadily gaining ground, viz., that in writing geographical native names vowels should have their Italian significance, and consonants that which they have in the English language.

This broad principle required elucidation in its details, and a system based upon it was consequently drawn up with the intention of representing the principal syllabic sounds.

It will be evident to all who consider the subject, that to ensure a fairly correct pronunciation of geographical names by an English-speaking person an arbitrary system of orthography is a necessity. It is hardly too much to say that in the English language every possible combination of letters has more than one possible pronunciation. A strange word, or name, even in our own language is frequently mispronounced. How much more with words of languages utterly unknown to the reader?

The same necessity does not arise in most Continental languages. In them a definite combination of letters indicates a definite sound, and each nation consequently has spelt

foreign words in accordance with the orthographic rules of its own language.

It was, therefore, not anticipated that foreign nations would effect any change in the form of orthography used in their maps, and the needs of the English-speaking communities were alone considered.

The object aimed at was to provide a system which should be simple enough for any educated person to master with the minimum of trouble, and which at the same time would afford an approximation to the sound of a place-name such as a native might recognise. No attempt was made to represent the numberless delicate inflexions of sound and tone which belong to every language, often to different dialects of the same language. For it was felt not only that such a task would be impossible, but that an attempt to provide for such niceties would defeat the object.

The adoption by others of the system thus settled has been more general than the Council ventured to hope.

The charts and maps issued by the Admiralty and War Office have been, since 1885, compiled and extensively revised in accordance with it. The Foreign and Colonial Offices have accepted it, and the latter has communicated with the Colonies requesting them to carry it out in respect to names of native origin.

Even more important, however, than these adhesions is the recent action of the Government of the United States of America, which, after an exhaustive inquiry, has adopted a system in close conformity with that of the Royal Geographical Society, and has directed that the spelling of all names in their vast territories should, in cases where the orthography is at present doubtful, be settled authoritatively by a committee appointed for the purpose.

The two great English-speaking nations are thus working in harmony.

Contrary to expectation, but highly satisfactory, is the news that France and Germany have both formulated systems of orthography for foreign words, which in many details agree with the English system.

The Council of the Royal Geographical Society, by printing the Rules in *Hints to Travellers*, and by other means, has endeavoured to ensure that all travellers connected with the Society should be made aware of them ; but as it is possible that some bodies and persons interested in the question may still be in ignorance of their existence and general acceptance, they feel that the time has come to again publish them as widely as possible, and to take every means in their power to aid the progress of the reform.

To this end, and with a view to still closer uniformity in geographical nomenclature in revisions of editions of published maps, a gigantic task requiring many years to carry out, the Council have decided to take steps to commence tentatively indexes of a few regions, in which the place-names will be recorded in the accepted form.

RULES.

The Rules referred to are as follows :—

1. No change is made in the orthography of foreign names in countries which use Roman letters : thus Spanish, Portuguese, Dutch, &c., names will be spelt as by the respective nations.

2. Neither is change made in the spelling of such names in languages which are not written in Roman character as have become by long usage familiar to English readers : thus Calcutta, Cutch, Celebes, Mecca, &c., will be retained in their present form.

3. The true sound of the word as locally pronounced will be taken as the basis of the spelling.

4. An approximation, however, to the sound is alone aimed at. A system which would attempt to represent the more delicate inflexions of sound and accent would be so complicated as only to defeat itself. Those who desire a more accurate pronunciation of the written name must learn it on the spot by a study of local accent and peculiarities.

5. *The broad features of the system are :—*

(a.) That vowels are pronounced as in Italian, and consonants as in English.

- (b.) Every letter is pronounced, and no redundant letters are introduced. When two vowels come together, each one is sounded, though the result, when spoken quickly, is sometimes scarcely to be distinguished from a single sound, as in *ai, au, ei*.
- (c.) One accent only is used, the acute, to denote the syllable on which stress is laid. This is very important, as the sounds of many names are entirely altered by the misplacement of this "stress."

6. Indian names are accepted as spelt in Hunter's *Gazetteer of India*, 1881.

7. In the case of native names in countries under the dominion of other European Powers in whose maps, charts, &c., the spelling is given according to the system adopted by that Power, such orthography should be as a rule disregarded, and the names spelt according to the British system, in order that the proper pronunciation may be approximately known. Exceptions should be in cases where the spelling has become by custom fixed, and occasionally it may be desirable to give both forms.

8. Generic geographical terms, *e.g.*, those for island, river, mountain, &c., should be as a rule given in the native form. In the case of European countries, translation into English, where this has been the custom, should be retained, *e.g.*, Cape Ortegal, not Cabo Ortegal, River Seine, not Fleuve Seine.

N.B.—On any printed map or MS. document, an explanatory table giving the English equivalents of the generic terms used, should of necessity be inserted.

The amplification of these rules in the Table at the end of this chapter (p. 56) explains their application.

BOOKS OF GENERAL GEOGRAPHICAL REFERENCE.

BIBLIOTHECA GEOGRAPHICA, herausgegeben von der Gesellschaft für Erdkunde zu Berlin. Berlin: H. W. Köhl. Annual. Price *ca.* 10s.

An exhaustive bibliography of geographical publications appearing as books or in journals in all parts of the world during each year. The titles alone are given, and in the original languages. The classification is good and thorough.

BIBLIOGRAPHIE DE L'ANNÉE. Annales de Géographie. Paris: A. Colin et Cie. Annual. Price 4s.

A list of the best selected geographical works of the year, classified and accompanied by critical or explanatory notes (in French) presenting a summary of the contents of each paper.

BLACKIE, C. Geographical Etymology. A Dictionary of Place-Names giving their Derivations. Murray, 1887. Price 7s.

There is a preface on the value of geographical etymology by Professor J. S. Blackie, and the book is particularly valuable for the many Celtic place-names which it explains.

BROWN, R. Countries of the World. 6 vols. Cassell. Price 45s.

This large work is useful for the very numerous illustrations it contains of scenery and people in all parts of the world.

CHAMBERS'S ENCYCLOPÆDIA. 10 vols. Edinburgh: Chambers, 1895. Price 100s.

The cheapest, and in many ways the most satisfactory work of general reference. It should be in every school library. Some of the geographical articles, especially those on Asia, are the best descriptions extant.

— **Concise Gazetteer of the World.** Edinburgh: Chambers, 1895. Price 5s.

The best book of its kind at the price.

CHISHOLM, G. G. Longman's Gazetteer of the World. Longmans, 1895. Price 42s.

The best one-volume gazetteer of the world, and the only one which is uniformly brought up to the date at which it was issued. The special attention Mr Chisholm has given to geographical orthography makes this work the nearest approach to an authoritative standard for spelling place-names.

EGLI, J. J. *Nomina Geographica*. Leipzig: Brandstetter, 1893. Price 28s.

Interesting particulars (in German) of the origin and history of place-names, arranged alphabetically. The standard work on the subject.

ENCYCLOPÆDIA BRITANNICA. 20 vols. Price £18.

This standard encyclopædia is of great value for its special geographical articles, many of them forming treatises, which are also published separately. The last (ninth) edition is, however, in large measure out of date in the earlier volumes.

GEOGRAPHICAL JOURNAL. Monthly, 2s. 2 volumes annually, from 1893. London: Royal Geographical Society. Free to Fellows of the Society.

This *Journal* is the continuation of the *Proceedings* of the Royal Geographical Society (see *ante*, p. 48), and in addition to numerous records of new journeys with original maps, it contains notices of all important geographical discoveries and researches. Each month a bibliography of new geographical publications (averaging over 170 titles) is included, arranged according to subject. In special circumstances, on application being made to the Secretary of the Royal Geographical Society, 1 Savile Row, London, W., teachers may be accorded a reduced rate of subscription for the *Journal*.

KELTIE, J. SCOTT, and I. RENWICK. *The Statesman's Year-Book. Statistical and Historical Annual of the States of the World*. Macmillan. Annual. Price 10s. 6d.

Invaluable for the carefully revised statistics of the most recent date. After the notice of each country, a list of official and non-official publications relating to it is given. This work is indispensable in teaching Commercial Geography, and serves to bring the statistics of any text-book up to date.

RECLUS, ELISÉE. *Géographie Universelle*. 19 vols. Paris: Hachette, 1878-95. Price *ca.* £20. (Also English Translation. Virtue. Sold only by Subscription.)

The French original is preferable. It is the only comprehensive and complete Geography, embracing the whole world on a uniform plan, and the illustrations are admirable.

SCOTTISH GEOGRAPHICAL MAGAZINE. Monthly, from 1885. 1s. 6d. Edinburgh: Royal Scottish Geographical Society. Free to Members.

Especially valuable for papers on physical geography, for critical notices of educational books, and for its maps.

ST MARTIN, VIVIEN DE, and L. ROUSSELET. Dictionnaire de Géographie Universelle. 7 vols. Paris: Hachette, 1879-95. Price 160s. Special Supplement in Course of Publication, 1897. Price *ca.* 20s.

The best gazetteer in existence. It contains a bibliography under almost every heading, and gives a very impartial account of all the places noticed.

STANFORD'S Compendium of Geography and Travel. New Issue. London: Stanford. Price 15s. per volume.

The new issue consists of a series of original treatises by competent authorities on each continent. It is the most convenient summary of the geographical conditions of the countries of the world available in English.

TAYLOR, I. Words and Places. Macmillan. Price 6s.

— Names and their Histories. Rivington, 1895. Price 6s.

These books are interesting to read, and in many cases, the notes on place-names suggest geographical relations. They do not displace Egli's work as authorities for reference.

WAGNER, H., and A. SUPAN. Die Bevölkerung der Erde. Gotha: J. Perthes. Periodically as an Extra Part to *Petermann's Mitteilungen*. Price 7s.

Gives the latest statistics of areas and populations of all countries, the former in metric units. The last numbers appeared in 1882, 1891, 1893.

— Geographisches Jahrbuch. Gotha: J. Perthes. Annual. Price 15s.

Gives authoritative summaries of recent advances in every department of Geography, and lists of all geographical serial publications and professors of Geography. Maps are also given, showing the sheets of the official survey maps of all countries which are procurable.

ROYAL GEOGRAPHICAL SOCIETY'S RULES FOR SPELLING PLACE-NAMES.

Letters.	Pronunciation and Remarks.			Examples.
a	<i>ah, a</i> as in <i>father</i> ...	...	...	Java, Banána, Somáli, Bari.
e	<i>eh, a</i> as in <i>fate</i> ...	...	...	Tel-el-Kebir, Oléleh, Yezo, Medina, Lévuka, Peru.
i	English <i>e</i> ; <i>i</i> as in <i>ravine</i> ; the sound of <i>ee</i> in <i>beet</i> . <i>o</i> as in <i>mote</i> ...	...	...	Fiji, Hindi.
o	long <i>u</i> as in <i>flute</i> ; the sound of <i>oo</i> in <i>boat</i> . <i>oo</i> or <i>ou</i> should never be employed for this sound ...	...	...	Tokyo.
u	<i>All vowels are shortened in sound by doubling the following consonant</i> ... Doubling of a vowel is only necessary where there is a distinct repetition of the single sound ...	...	...	Zulu, Sumatra.
ai	as in <i>aisle</i> , or English <i>i</i> as in <i>ice</i> ...	...	...	Yarra, Tanna, Mecca, Jidda, Bonny.*
au	<i>ow</i> as in <i>how</i> ...	...	...	Nuulúa, Oosima.
ao	is slightly different from above ...	...	...	Shanghai.
aw	when followed by a consonant or at the end of a word, as in <i>law</i> ...	...	...	Fuchau.
ei	is the sound of the two Italian vowels, but is frequently slurred over, when it is scarcely to be distinguished from <i>ei</i> in the English <i>eight</i> or <i>ey</i> in the English <i>they</i> ...	...	...	Macao.
b	English <i>b</i> . is always soft, but is so nearly the sound of <i>s</i> that it should be seldom used. If <i>Celbes</i> were not already recognised it would be written <i>Selbes</i> . is always soft as in <i>church</i> ...	...	...	Cawnpore.
c	English <i>c</i> . is always soft as in <i>church</i> ...	...	...	Beirút, Beilúl.
ch	English <i>ch</i> . is always hard. (Soft <i>g</i> is given by <i>j</i>) is always pronounced when inserted.	...	...	Celébes.
d	English <i>d</i> . is always hard. (Soft <i>g</i> is given by <i>j</i>) is always pronounced when inserted.	...	...	Chingchin.
f	English <i>f</i> . <i>ph</i> should not be used for the sound of <i>f</i> . Thus, not <i>Haiphong</i> , but as in <i>what</i> ; better rendered by <i>hw</i> than by <i>wh</i> , or <i>h</i> followed by a vowel, thus <i>Huang ho</i> , not <i>Whang ho</i> , or <i>Hoang ho</i>...	...	...	Haifong, Nafa.
g	English <i>g</i> . <i>ph</i> should not be used for the sound of <i>f</i> . Thus, not <i>Haiphong</i> , but as in <i>what</i> ; better rendered by <i>hw</i> than by <i>wh</i> , or <i>h</i> followed by a vowel, thus <i>Huang ho</i> , not <i>Whang ho</i> , or <i>Hoang ho</i>...	...	...	Galápagos.
h	English <i>h</i> . <i>ph</i> should not be used for the sound of <i>f</i> . Thus, not <i>Haiphong</i> , but as in <i>what</i> ; better rendered by <i>hw</i> than by <i>wh</i> , or <i>h</i> followed by a vowel, thus <i>Huang ho</i> , not <i>Whang ho</i> , or <i>Hoang ho</i>...	...	...	Hwang ho, Ngan hwi.
hw	English <i>j</i> . <i>Dj</i> should never be put for this sound	...	...	Japan, Jinchuen.
j	English <i>j</i> . <i>Dj</i> should never be put for this sound	...	...

CHAPTER VI.

Mathematical Geography.

THE basis of all Geography is a knowledge of the form of the Earth, the method of fixing position on its surface by astronomical observations, and of representing the surface by means of maps—in other words Mathematical Geography. The neglect of the “use of the globes” is responsible for much of the vagueness with regard to conceptions of latitude, longitude, and time, which now prevail. I have often been struck with the wonderfully clear and correct ideas on time and longitude possessed by old ladies whose school education took place in the days when the globes were favourite instruments of mental gymnastic. No books can make up for the want of the solid sphere, and it is worth again emphasising that an old globe which may be bought second-hand for a few shillings, is quite as useful as a new one, if the parallels and meridians are distinct, and the moving parts in good order. For accurate delineations of the continents one should consult an atlas, not a globe; but problems regarding time, latitude, great circle routes, &c., can never be properly understood from flat maps.

Some knowledge of the processes of surveying, of map-projections (such as may be obtained from the introduction to Philip's *Systematic Atlas*), of astronomy, and of the use of instruments, is to be desired for every teacher.

BOOKS ON MATHEMATICAL GEOGRAPHY.

CLARKE, A. R. *Geodesy*. Oxford: Clarendon Press, 1880.
Price 12s. 6d.

An excellent account of the methods of exact surveying, the measurement of the Earth and determining its figure; but the book is not one for the non-mathematical reader.

ELDERTON, W. A. *Maps and Map Drawing*. Macmillan's Geographical Series. Macmillan, 1890. Price 1s.

A little book which serves as a good introduction to the subject.

GORE, J. H. *Geodesy*. London: Heinemann, 1891. 5s.

A more readable, but less thorough work than that of Clarke.

GÜNTHER, SIEGMUND. *Handbuch der mathematischen Geographie* (Ratzel's Series.) Stuttgart: Engelhorn, 1890.
Price 15s.

A valuable book of reference.

— *Grundlehren der mathematischen Geographie und Elementaren Astronomie für den Unterricht*. Vierte Auflage. Munich: Ackermann, 1896. Price 2s.

Very compact and well arranged. A model text-book.

HINTS TO TRAVELLERS. Royal Geographical Society. New Edition, 1895. Price 8s. To Fellows of the Society, 5s.

Contains full practical instructions for surveying and fixing positions, with many useful tables.

HERSCHELL, Sir JOHN. *Astronomy*. Longmans. Price *ca.* 3s. 6d.

An old book, but never equalled for clearness, and accuracy of statement in Astronomical Geography.

WHITE, T. PILKINGTON. *The Ordnance Survey of the United Kingdom*. Blackwood, 1886. Price 5s.

This combines a short history of the Survey, with a description of the methods employed in producing the maps. These methods have since been modified by the greatly increased use of photography in reproduction.

CHAPTER VII.

Physical Geography.

Books dealing with Physical Geography as a subject in itself, usually contain a certain amount of Mathematical Geography, and frequently a good deal of Biological Geography as well. Under the title of Physiography this is all comprehended, the object being to show the essential unity of the Earth in all the manifold relations of the phenomena of its surface. The attempt to crowd too much into a small space in order to convey a minimum knowledge to ensure the victim passing certain examinations, has led to the production of some highly objectionable little books. In them the noble symmetry of Physiography is entirely obscured, and a conglomerate of disconnected fragments of chemistry, elementary physics, geology, meteorology, and astronomy, takes its place.

Physical Geography, as discussed here, is the description of the forms of the Earth's crust, and the relation of the watery and aerial envelopes to the solid Earth, and to the energy radiated from the Sun. It may be considered consequently in three sections — (1) The Crust of the Earth, the study of which is often called Geomorphology; (2) Oceanography; and (3) Climatology.

It is convenient to class together, as introductory to the whole, those books which deal with Physiography or Physical Geography in the widest acceptation given to the name. This section is all that is necessary for the teacher who wishes merely to equip himself for teaching so much of Physical Geography as it is desirable to treat of in schools. The three

subdivisions are included for the benefit of the student who wishes to go a little further into a very fascinating subject.

The extent to which Physical Geography should be insisted on in school-teaching, is a matter for decision by the individual teacher. In the country it can be taught best by actual observation of the processes going on around one ; but in towns this is only possible to a small extent, and the work is apt to become dry and burdensome. It will probably be found advisable to give a clear account of the chief types of land-forms—*islands, peninsulas, plains, mountains, plateaus, valleys, lakes*, with some fuller treatment of *river-basins and river-systems*, but to touch very lightly on formative processes. Then when describing any region, the land-forms and their mutual relations may well be made the basis on which the whole structure of instruction is built.

For the three subdivisions special knowledge is desirable of three sciences, which for the most part lie outside of Geography, though the results of them are essential parts of it. No study of land forms can be satisfactory without considering the origin of the various features, which involves geology. Much discussion has been devoted to the elucidation of the precise line of demarcation between Geography and geology. The most natural definition would be that Geography is concerned only with the surface of the Earth as it is at the present day, while geology has to do with the whole crust of the Earth throughout the whole range of past time. But the two necessarily overlap, and are mutually indispensable.

Meteorology, as a science, has to do with the physics of the atmosphere, and has an important practical application in the study of the conditions of weather and the prediction of storms. Its relation to Geography is through climatology, which means the distribution of climate over the Earth's surface, having regard to temperature, winds, and rainfall.

Oceanography, as a science, bears to the oceans the same relation that meteorology bears to the atmosphere. It extends, however, to the study of the ocean floor as well as to the water itself, and it is of geographical importance as regards the

direction and position of currents, the distribution of temperature in the water, and of deposits on the sea-bed.

It may be noted that works on the Physical Geography of the crust of the Earth have for the most part been written by geologists, and to be fully understood, demand a considerable knowledge of geology; while works on oceanography have frequently been produced by chemists, who naturally pay most attention to the composition of the water and the deposits, or by biologists whose interest centres in the creatures living in the water, or on the floor of the oceans.

All the phenomena of physiography may be studied in the fine *Physikalisches Atlas* of Berghaus, published by Perthes of Gotha. A similar but original work on a larger scale, in the preparation of which the leading British exponents of the various sections of Physical Geography are engaged, is announced for publication by Mr Bartholomew, under the auspices of the Royal Geographical Society.



BOOKS ON PHYSICAL GEOGRAPHY.

I. General, including Physiography.

BONNEY, T. G. *The Story of our Planet.* Cassell, 1893.
Price 31s. 6d.

A popular treatise on Physical Geography by a geologist.

BROWN, R. *The Earth and its Story.* 3 vols. Cassell.
Price 27s.

Of value chiefly for the numerous illustrations and references. The book itself is an adaptation from the German.

GEIKIE, Sir A. *Elementary Lessons in Physical Geography.*
Macmillan. Price 4s. 6d.

A deservedly popular class-book.

GÜNTHER, S. *Lehrbuch der physikalischen Geographie.*
Stuttgart : Enke, 1891. Price 10s. 6d.

Specimen of one of the best German text-books.

HINMAN, RUSSEL. *Eclectic Physical Geography.* Sampson
Low, 1888. Price 6s.

One of the best American text-books of physiography.

HUXLEY, T. H. *Physiography : an Introduction to the Study
of Nature.* Macmillan. Price 6s.

This classic work is specially suited for use in the Thames valley, on account of the admirable manner in which that region is treated as an introduction to natural science.

MILL, H. R. *The Realm of Nature, an Outline of Physio-
graphy.* Murray. (Revised 1897.) Price 5s.

The coloured maps by Bartholomew included in this book may be looked on as forming a miniature physical atlas.

PESCHEL, O., and G. LEIPOLDT. *Physische Erdkunde.* 2 vols.
Leipzig : Dunckler und Humblot, 1885. Price ca. 20s.

Professor Otto Peschel was one of the greatest of the geographers who have moulded the direction of geographical studies in Germany and in Europe generally.

RECLUS, ELISÉE. *La Terre. Description des Phénomènes de la Vie du Globe.* 2 vols. Paris: Hachette. Price ca. 40s. (Also two English translations.)

The preliminary physical considerations on which the great *Géographie Universelle* was based. The work brings out well the larger relations of the parts and features of the Earth.

SHALER, N. S. *Aspects of the Earth. A Popular Account of some familiar Geological Phenomena.* Smith, Elder, & Co., 1890. Price 16s.

— *Sea and Land: Features of Coasts and Oceans, with Special Reference to the Life of Man.* Smith, Elder, & Co., 1895. Price 10s. 6d.

Each volume consists of essays on various parts of Physical Geography, most attractively written, and finely illustrated.

STRACHEY, Sir R. *Lectures on Geography before the University of Cambridge.* Macmillan, 1886. Price 4s. 6d.

These lectures were given by Sir Richard Strachey while President of the Royal Geographical Society, in order to illustrate the manner in which Geography might be treated in a University.

SUPAN, A. *Grundzüge der physischen Erdkunde.* Leipzig: Veit, 1896. Price 4s.

An example of a first-class modern German text-book.

TARR, R. S. *Elementary Physical Geography.* Macmillan, 1896. Price 6s.

One of the best American text-books, very profusely illustrated, and expressive of the most modern views as to the origin of land-forms.

2. The Crust of the Earth—The Surface of the Lithosphere.

BONNEY, T. G. *Ice Work, Past and Present.* Kegan Paul, 1896. Price 5s.

Discusses the influence of ice in shaping the surface-features of the land.

DARWIN, C. *Coral Reefs, Volcanic Islands, and South American Geology.* Ward, Lock, & Co. Price 2s. Another Edition, with Appendix by Prof. Bonney. Smith, Elder, & Co. Price 2s. 6d.

Contains the original statement of the famous theory of the origin of Coral Islands.

DE LA NOE, G., and E. DE MARGERIE. *Les Formes du Terrain*. Paris : Imprimerie Nationale, 1888. Price *ca.* 25s.

Descriptive of different types of land-forms, with an atlas.

DE LAPPARENT, A. *Leçons de Géographie physique*. Paris : Masson, 1896. Price *ca.* 15s.

The first systematic treatise on Physical Geography to insist on the importance of the processes by which land-forms originated.

GEIKIE, J. *Fragments of Earth Lore*. Edinburgh : Bartholomew, 1893. Price 12s. 6d.

A valuable series of lectures and addresses on different aspects of Physical Geography, mainly relating to the crust of the Earth.

HAHN, F. G. *Inselstudien*. Leipzig : Veit, 1883. Price 7s. 6d.

Specimen of the detailed study and classification of one type of geographical feature. Many similar monographs are to be found in the *Ergänzungshefte* to *Petermann's Mitteilungen*.

JUDD, J. W. *Volcanoes: What they are, and what they teach*. Kegan Paul, 1888. Price 5s.

Primarily geological, but of geographical interest throughout.

MILNE, JOHN. *Earthquakes and other Earth Movements*. Kegan Paul, 1886. Price 5s.

The importance of earthquakes in Geography is becoming clearer as their study is carried on.

PENCK, A. *Morphologie der Erdoberfläche*. 2 vols. Stuttgart : Engelhorn, 1894. Price 32s.

This standard work is not only a compendium of physico-geographical theories, but also a bibliography of all works on the crust of the Earth of any importance, published up to 1893.

SUESS, E. *Das Antlitz der Erde*. 2 vols. Leipzig : Freytag, 1885, 1888. Price 50s.

Indispensable to all students who wish to fully understand the application of geological facts to geographical conditions. The work treats comprehensively of the forms and movements of the Earth's crust.

3. Oceanography—The Conditions of the Hydrosphere.

AGASSIZ, ALEXANDER. *Three Cruises of the U.S. Survey Steamer "Blake" along the Atlantic Coast of North America in 1877-1880*. 2 vols. Sampson Low, 42s.

A good example of a book of descriptive oceanographical research.

BOGUSLAWSKI, G. VON, and O. KRÜMMEL. Handbuch der Ozeanographie. 2 vols. Stuttgart: Engelhorn, 1884-1887. (Ratzel's Series.) Price 15s.

The standard work on oceanography up to the present.

"CHALLENGER" REPORTS. Narrative. Vol. 1 (in two parts). Report on Deep-Sea Deposits, and Summary of Results.

These volumes, describing the greatest oceanographical expedition ever sent out, may be profitably referred to in a library. The summary of results contains an interesting treatise on the history of Geography, with maps.

KRÜMMEL, O. Der Ozean, eine Einführung in die allgemeine Meereskunde. Leipzig: Freytag, 1886. Price *ca.* 2s.

A short and simply written treatise on oceanography.

MAURY, M. F. Physical Geography of the Sea. Various editions, *e.g.*, Nelson. Price 4s.

A fascinating book which, although out of date, may be useful as a stimulant to further study of oceanography. The theories put forward must not be looked on as accepted at the present day; but Maury's spirit of enthusiastic research is a lesson for all time.

THOMSON, Sir C. WYVILLE. The Depths of the Sea. Macmillan, 1873. Price 31s. 6d.

Describes the preliminary voyages, the success of which led to the despatch of the "Challenger" Expedition.

— The Atlantic. A Preliminary Account of the Voyage of the "Challenger." 2 vols. Macmillan, 1877. Price 45s.

The more popular accounts of the whole "Challenger" voyage are given under General Voyages and Travels, p. 139.

THOULET, J. Guide d'Océanographie Pratique. (Encyclopédie Scientifique des Aide-mémoire.) Paris: Masson, 1895. Price 2s. 6d.

An attractive little book, giving a concise summary of the author's larger work.

WALTHER, J. Allgemeine Meereskunde. Leipzig: Weber, 1893. Price 4s. 6d.

A short summary of oceanography, giving considerable space to oceanic life.

4. Climatology—The Conditions of the Atmosphere.

BUCHAN, A. Circulation of the Atmosphere. "Challenger" Reports—Physics and Chemistry. (To be consulted in a library.)

Contains a unique collection of climate maps showing the temperature, pressure, and winds of the whole world for each month.

DAVIS, W. M. Elementary Meteorology. Boston: Ginn & Co., 1894. Price 10s. 6d.

An admirable text-book, clearly arranged and distinguishing distinctly between facts and theories.

DICKSON, H. N. Meteorology: the Elements of Weather and Climate. Methuen, 1893. Price 2s. 6d.

The simplest introduction to modern meteorology for school use.

HANN, J. J. Handbuch der Klimatologie. Stuttgart: Engelhorn (Ratzel's Series). Second Edition. 1897. Price 15s.

The most authoritative treatise on climatology.

SCOTT, R. H. Elementary Meteorology. Kegan Paul. Price 5s.

As an advanced text-book.

WALDO, F. Elementary Meteorology for High Schools and Colleges. New York: American Book Co., 1896. Price 6s. Specially designed for educational purposes.

CHAPTER VIII.

Bio-Geography.

THE plants and animals of any district form so striking an element in its individuality, that they have from the earliest time attracted a certain amount of attention, and latterly have been the objects of careful study. For school purposes, the passages in books on Physical Geography in general, which deal with the distribution of life, will be found sufficient as a rule. But a certain number of teachers may find that they are able to teach Geography better from the biological side than from any other, and for their benefit the following short list has been compiled. The close relation between climate and the luxuriance of vegetation is plain enough to every one who has read even general accounts of different countries, and in its simpler features the distribution of species is also easily seen to depend on climate and on geographical isolation. The elaboration of these relations leads one into a very fascinating field of study, in the pursuit of which not only should the general treatises be read, but also many of the special accounts of separate regions written from this point of view.

Similarly the rough outline of the geographical distribution of animals may be readily grasped—the typical apes of Africa, and the monkeys of America and Asia, the Asiatic tiger, South American tapir, and Australian kangaroo, are cases in point. But the full study of the distribution of animal life is probably more difficult, though no less interesting, than that of plants.

The results of migration and extirpation of species are more distinct, and frequent appeal has to be made from the existing distribution of animal life to the geological evidence as to the distribution in past epochs.

The light thrown by the study of insular or lacustrine floras and faunas on the geologically recent distribution of land and water, is often clear, and almost startling, when the reader is sufficiently conversant with modern biology to appreciate the character of the relations subsisting between organisms and their environment.

BOOKS ON BIO-GEOGRAPHY.

BEDDARD, F. E. A Text-Book of Zoogeography. Cambridge University Press, 1895. Price 6s.

A compact and up-to-date summary of the facts known as to the distribution of land animals, and the inferences to be drawn from it.

BREHM, A. E. Tierleben. 3 vols. 1,200 illustrations. Leipzig: Bibliographisches Institut. Price 30s.

This is a cheap edition of Brehm's great work in ten volumes. A series of vivid and suggestive essays by Brehm is translated under the name of *From North Pole to Equator*, and published by Blackie & Son.

CANDOLLE, A. DE. Origin of Cultivated Plants. Kegan Paul. Price 5s.

DRUDE, O. Handbuch der Pflanzengeographie. Stuttgart: Engelhorn, 1890. Price 15s.

An authoritative treatise on the distribution of plants by one of the leading authorities.

HEILPRIN, A. Geographical and Geological Distribution of Animals. Kegan Paul. Price 5s.

A valuable treatise on animal distribution worthy of being compared with Wallace's works, from the classification given in which it differs in some respects.

HEMSLEY, W. B. Report on the Present State of Knowledge of Various Insular Floras, 1885. (In "Challenger" Reports, but purchasable separately. Price 2s.)

A technical memoir on the plants of certain oceanic islands.

HICKSON, S. J. Fauna of the Deep Sea. Kegan Paul. Price 2s. 6d.

KERNER, F. Pflanzenleben. 2 vols. 2,000 Illustrations. Leipzig: Bibliographisches Institut. Price 32s.

A companion work to Brehm's *Tierleben*.

LYDDEKER, R. A Geographical History of Mammals. Cambridge University Press, 1896. Price 10s. 6d.

The classification differs from that of Wallace and Heilprin, chiefly in the adoption of two grades of subdivision and in the greater number of separate regions defined. It goes into the geological history of animal forms.

STERNE, C. *Werden und Vergehen*. Berlin, 1886.

Pronounced by Mr J. A. Thomson in his *Animal Life* (Murray, 1892) "the most successful attempt hitherto made to combine in one volume a history of the Earth and its inhabitants."

WALLACE, A. R. *The Geographical Distribution of Animals*.
2 vols. Macmillan. Price 42s.

The standard work of reference on animal distribution.

—— *Island Life*. Macmillan. 6s.

A fascinating work, explaining very clearly how geographical conditions affect the distribution of life, and how life-conditions may be received as records of geographical change.

—— *Tropical Nature*. Macmillan. 6s.

A book which may be read for its intrinsic interest, as well as for the descriptions of plant and animal life in the tropical zone.

CHAPTER IX.

Anthropo-Geography.

THE distribution of the primitive tribes of the human race is subject to conditions almost identical with those which influence the lower animals. But Man may be studied in many different aspects, of which by far the most interesting are those concerning his development in culture and in enterprise. The basis of Anthropo-Geography may be taken as the map of density of population over the Earth, just as the basis of Physical Geography may be taken as the map of vertical relief of the globe. But what the geological map is to the map of relief, distinguishing the composition of the various features, so is the ethnographical map to that of density of population. The subdivision of the human race is a problem which has not yet been satisfactorily solved; but much progress has been made in studying the physical, social, and intellectual peculiarities of the various races, and the interaction of these races with their environment. A considerable amount of literature exists on these subjects, but mainly in connection with the primitive or degraded races. It is convenient to consider together as Anthropo-Geography the three upper divisions of the pyramid diagram referred to on page 16, dividing the list of books into three parts.

The relation of civilised man to the Earth is much more complicated than that of primitive races. Political Geography may be taken as representing the results of the occupation of definite regions by particular races. It may be studied in its general aspects with regard to the movements of migration and colonisation, the selection of sites for towns, the conflicts

between races ; or it may be looked at in its more special aspects as the description of the separate countries of the world. In the latter sense it perhaps comes nearer the popular conceptions of "Geography" than anything else, and some of the vast literature concerning it is mentioned under the names of the various continents.

Political Geography is the result at the present moment of a long series of changes in the boundaries and in the people of countries ; the consideration of which falls under the head of Historical Geography. It is convenient to consider, along with Historical Geography, the history of geographical discovery and of geographical theories. The two are really very closely related, for discovery has always gone hand in hand with acquisition of territory, and the formation of new states or empires.

On the other hand, Political Geography is largely influenced by the natural resources of regions, and with the wants of peoples. The transference of surplus productions from one part of the world to another has given rise to commerce, and Commercial Geography is an aspect of the main subject which has acquired great importance. At present the need for teaching Commercial Geography is being urged by many people of influence, who hesitate to provide the means for carrying it out, and a reaction may possibly set in against such teaching, on the ground of unsatisfactory results. It should, however, be remembered that just as the teaching of hygiene is not intended to turn school-children into physicians, so the teaching of Commercial Geography should not be expected to turn them into merchants. If the one subject tells something of the conditions of healthy life in the body, and the other something of the conditions of healthy life in the nation, it is all that need be looked for. To produce any effect on trade, Commercial Geography must be studied, as most of our great merchants do study it, practically, each in his own special department. For school purposes, Commercial Geography should only be looked on as the means of throwing a special light on Geography in general.

BOOKS ON ANTHROPO-GEOGRAPHY.

I. General.

KEANE, A. H. *Ethnology*. Cambridge University Press, 1895. Price 10s.

The only English text-book dealing comprehensively with the races of mankind, and consequently indispensable to the student.

MARSH, G. P. *Man and Nature, or Physical Geography as Modified by Human Action*. Sampson Low, 1864. Price 14s.

A remarkably suggestive book, which it may be difficult to procure; comparable with Maury's *Physical Geography of the Sea* in its vivid interest, but unfortunately comparable with that work also in being somewhat out of touch with modern results.

RATZEL, F. *Anthropogeographie. Grundzüge der Anwendung der Erdkunde auf die Geschichte*. 2 vols. Stuttgart: Engelhorn, 1882 and 1891. Price 15s. each.

On the relations of the human race to the Earth, the characteristics of peoples inhabiting the various types of natural region, and on the dependence of history on Geography.

— *History of Mankind*, edited by E. B. Tylor. Macmillan, 1895-97, in 30 monthly parts. Price 1s. each.

Admirably illustrated, with portraits of typical members of various races, and specimens of the workmanship of primitive peoples.

SHALER, N. S. *Nature and Man in America*. Smith, Elder, & Co., 1892. Price 6s.

Touches on the changes induced by American environment in European races.

TYLOR, E. B. *Primitive Culture. Researches into the Development of Mythology, Philosophy, Religion, Language, Art, and Custom*, Third Edition. Murray, 1891. 2 vols. Price 21s.

This important work cannot be said to be in itself geographical, but it treats of the broad basis which unites the human race in one family despite the minor differences produced by geographical and other environments.

On the Choice of Geographical Books. 75

TYLOR, E. B. *Anthropology*. Macmillan. Price 7s. 6d.

An illustrated popular outline of the facts fully treated in the author's great work on *Primitive Culture*.

2. Political and Historical Geography.

BEAZELEY, C. R. *The Dawn of Modern Geography*. Murray, 1897. Price 18s.

This volume treats of the period before the dawn of modern Geography, and forms a link between the close of Bunbury's *History* and the time of Prince Henry the Navigator.

BUNBURY, Sir E. H. *History of Ancient Geography to the Fall of the Roman Empire*. 2 vols. Murray. Price 21s.

A ponderous work, recognised as the first authority, and useful for reference.

NOEL, O. *Histoire du Commerce du Monde depuis les Temps les plus reculés*. 2 vols., coming down to 1789. Paris: Plon, Nourrit, et Cie., 1891 and 1893. Price 32s.

Gives important details as to the historical changes in trade routes. A third and last volume will bring the work down to 1860.

ST MARTIN, VIVIEN DE. *Histoire de la Géographie*. Paris: Hachette, 1873. Price ca. 15s.

The only clear account of the entire history of Geography in a single volume. For those who read French there is no more interesting book to be found in the range of geographical literature.

TOZER, H. F. *A History of Ancient Geography*. Cambridge: University Press, 1897. Price 10s. 6d.

This covers the same range of time as Bunbury's great work, including the history of the rise of Greek Geography from its origin to its climax in Ptolemy, with some valuable general chapters.

3. Commercial Geography.

"BOARD OF TRADE JOURNAL." Published by H.M. Stationery Office, monthly. Price 6d. per number.

Contains particulars of recent changes in Commercial Geography intended primarily for merchants, but valuable also to teachers.

CHISHOLM, G. G. *Handbook of Commercial Geography*. 10s. net. Also smaller edition, 2s. 6d. Longmans.

The *Handbook* is by far the best work on Commercial Geography in English, and compares favourably with the best works of a similar kind in French and German. It is invaluable for reference.

EGLI, J. J. *Neue Handelsgeographie*. Leipzig, 1886 : Brandstetter. Price *ca.* 2s.

A charmingly written little school book, full of human interest.

KELTIE, J. SCOTT. *Applied Geography*. Philip, 1890. 2s. 6d.

Illustrative essays on different aspects of Economic Geography.

MILL, H. R. *Elementary Commercial Geography*. Cambridge University Press. Fourth Edition. 1897. Price 1s. 6d.

An attempt to embody the author's idea of what an elementary class-book should contain and omit.

SHIPPING WORLD YEAR-BOOK. Edited by Major Jones. A Desk-Manual in Trade, Commerce, and Navigation. Annual. London : *Shipping World Office*. Price *ca.* 5s.

Contains the customs tariffs of all countries, and alphabetic lists with full particulars of all British and foreign seaports.

ZEHDEN, C. *Commercial Geography of the World*. Blackie. Price 5s.

A translation.

CHAPTER X.

The British Empire.

THE home country is necessarily that to which most attention must be devoted in teaching ; but the home country must not be conceived in a parochial sense. In America it should not be taken as the native State, but the whole vast Union of States ; on this side of the Atlantic we should not look on it as England, Great Britain, or even the United Kingdom, but as the whole British Empire, every portion of which should be treated of in greater fulness in the schools of this country than any other part of the world of equal area or population. While placing the Empire thus in the first place, it is particularly necessary to guard against giving a false or inadequate idea of other countries, and in any efforts to encourage patriotism, much care should be taken not to present other nations in an unfair or ridiculous light.

It is important to distinguish between the mode of government and the degree of control exerted by the mother country in the different classes of Crown, representative, and responsible colonies, and spheres of influence administered as protectorates or by chartered companies ; but the distinction between Geography and politics should always be observed, and the boundary never overstepped.

In selecting references for the British Empire, it is difficult to know where to draw the line ; but as a rule all reference to official papers is excluded. The Colonial Office "Year-book" and "Reports" and the "Blue-books" published at short intervals, giving statistics and often interesting maps, are usually too detailed to be capable of useful application in teaching. Almost all their information digested into a compact and convenient form will be found in Dr Scott Keltie's *States-*

man's Year-book, in which the British Empire is very fully treated. The periodical publications of the Royal Colonial Institute, the Society of Arts, and also of the Imperial Institute abound in fresh and authentic information.

A certain caution should be exercised in interpreting the Colonial hand-books prepared for the attraction of emigrants. It is well always to remember that the advantages of the colony are rarely under-estimated, and that the disadvantages are not usually brought prominently forward in such works. The prospectuses of projected companies, or the reports of companies actually at work in the colonies may very safely be ignored for educational purposes.

It is necessary to remember that in colonies which are being rapidly developed, a single year may produce greater changes than a century in other places. For example, the descriptions of Benin, written two hundred years ago, are still fairly accurate, while an account of Mashonaland or Western Australia five years old is almost out of date.

In the study of the United Kingdom the maps issued in the official time-tables of the railway companies should be largely utilised for the purpose of getting a clear view of the great stream-lines of communication; and the reduced Ordnance Maps produced by Bartholomew, tinted in contours to show physical relief, ought to be used for the district of the school, in conjunction of course with the Ordnance Survey Maps of the immediate locality.

Books on the separate British Possessions are given in the chapters on Asia, Africa, America, and Australasia.

BOOKS ON THE BRITISH EMPIRE.

I. The United Kingdom.

BARTHOLOMEW, J. G. Gazetteer of the British Islands. Edinburgh: Bartholomew. Price 12s. 6d. Census Edition, 1891.

The original edition, published in 1887, contained a series of valuable statistical maps referring to the data of the census of 1881.

CASSELL'S Gazetteer of Great Britain and Ireland, being a complete Topographical Dictionary of the United Kingdom, with numerous Illustrations and 60 Maps. Cassell & Co. In monthly parts, price 7d. each.

This is the best and largest gazetteer of the British Islands, and when complete will be a valuable work of reference.

CUNNINGHAM, W. Growth of English Industry and Commerce. Cambridge: University Press, 1890. Price 16s. Also a cheaper edition.

GEIKIE, Sir A. Elementary Geography of the British Isles. Macmillan. Price 1s.

One of Macmillan's Geographical Series, designed as an elementary school book.

— **The Scenery and Geology of Scotland.** Macmillan. Second Edition. Price 12s. 6d.

A gracefully written discussion of the fundamental control exercised by geological structure on geographical forms. There are maps and illustrations.

GIBBINS, H. DE B. English Industry: Historical Outlines, with five Maps. Methuen, 1896. Price 10s. 6d.

— **Industrial History of England.** Methuen. Price 3s. 6d.

These books present in a convenient form much interesting information on the Historical Geography of England.

GREEN, J. R. and A. S. Short Geography of the British Islands. Macmillan. Price 3s. 6d.

An admirable school book on account of the view-point of the authors, and their firm grasp of geographical principles. Facts that may have fallen out of date can easily be corrected.

GREEN, S. G. English Pictures. Religious Tract Society.
Price 8s.

— Scottish Pictures. Religious Tract Society. Price 8s.

These may be referred to for their illustrations.

JUKES-BROWN, A. J. The Building of the British Islands.
Bell, 1888. Price 7s. 6d.

An effort to establish the order in which different parts of the British Islands emerged, and the changes the land underwent at different periods. To appreciate the arguments some knowledge of geology is required.

HULL, E. Physical Geology and Geography of Ireland.
Stanford, 1878. Price 7s.

This volume treats of Ireland in a similar manner to Sir A. C. Ramsay's book on England, and Sir A. Geikie's on Scotland.

LOVETT, R. Irish Pictures. Religious Tract Society. Price 8s.

— Welsh Pictures. Religious Tract Society. Price 8s.

These are of interest for their illustrations.

RAMSAY, Sir A. C. Physical Geography and Geology of Great Britain, edited by H. B. Woodward. Stanford, 1894. Price 10s. 6d.

To those indifferent to the latest geological details, the early editions will be found no less interesting.

ROUND the Coast. Newnes, 1896. Price 6s.

A series of large reproductions of coast scenery in the British Islands, many of them of geographical value.

2. The British Empire or Colonies as a Whole.

CALDECOTT, A. English Colonisation and Empire. Murray, 1891. Price 3s. 6d.

A concise history of the growth of the British Empire, dwelling mainly on the political, economic, and social aspects of the question.

DILKE, Sir CHARLES. Greater Britain, a Record of Travel in English-Speaking Countries during 1866 and 1867; with additional Chapters. Macmillan. Price 6s.

For general information, not a strictly geographical work.

FROUDE, J. A. Oceana; or, England and her Colonies. Longmans. Price (several editions), 18s. to 1s.

Recounts the circumstances of a visit to Cape Colony and Australasia in 1885, with reflections on the relations between the mother country and the Colonies.

On the Choice of Geographical Books. 81

GIBBINS, H. DE B. *British Commerce and Colonies from Elizabeth to Victoria.* Methuen. Price 2s.

An outline of the commercial history of the British Empire.

GRESWELL, W. P. *Outlines of British Colonisation.* Percival, 1893. Price 6s.

A history of the growth of the British Empire, with numerous statistical tables, and many references to special literature.

— *The British Colonies and their Industries.* Philip. Price 1s. 6d.

An excellent little book for school use, quoting a number of graphic descriptions from various writers of the staple industries in the Colonies.

HÜBNER, BARON VON. *Through the British Empire.* 2 vols. Murray, 1886. Price 24s.

This description covers the same ground as Froude's *Oceana* with the addition of Canada. It is valuable as recording the impressions of an observant and impartial foreigner.

LUCAS, C. P. *Historical Geography of the British Colonies; Introductory Volume and four other Volumes.* Oxford: Clarendon Press, 1887-1897. Price *ca.* 7s. 6d. each.

An admirable series designed to give the Historical Geography of every separate British Colony, with a map even of the smallest. Mr Lucas, being engaged in the Colonial Office, has the advantage of working directly from original and authoritative data, and the volumes are very skilfully compiled.

PARKIN, G. R. *Round the Empire.* Cassell. Price 1s. 6d.

A capital little book suitable for reading in schools, descriptive of a journey through most of the British possessions.

ROBINSON, H. J. *Colonial Chronology.* Lawrence & Bullen, 1892. Price 16s.

A neatly arranged record, very easy of reference, recording the principal events in the history of India and the Colonies on a novel plan.

SEELEY, Sir J. R. *The Expansion of England.* Macmillan, 1883. Price 4s. 6d.

A fine example of Historical Geography in the special case of the origin of the British Colonial Empire.

WHITE, A. SILVA (Editor.) *Britannic Confederation.* Philip, 1892. Price 3s. 6d.

A series of essays by distinguished authors on various aspects of the British Empire.

CHAPTER XI.

The Geography of Europe.

THE following list is divided into parts dealing with Europe in general, and with certain specified countries, the names of which are alphabetically arranged.

The Continent is a division of very great importance in Political Geography, and there is much room for good monographs on the several continents from the geographical point of view. Such books would necessarily represent the generalisation of a vast amount of special information. They should deal with the outline of the Continent, the arrangement of its land-forms, with special reference to mountain systems and river-basins, with its various climates, the distribution of plants and animals. Then having indicated the natural division into regions, the manner in which these have been settled upon by different races leading to the formation of countries should be traced, and the changes of boundary followed down to the present day. In default of any perfect work of this kind for Europe, a few of different aim and various attainment are mentioned, and in addition to these, attention should be given to the notices in the more general works under "Books of Reference" and "School-books."

In addition to systematic works, it may be found interesting to read the narratives of travel in the Continent of Europe at various periods down to the present day. Such books are very numerous, but it is difficult to make a selection. The difficulty of selection, indeed, applies to all works of travel; for very few travellers have been geographers, and the records

of journeys are nearly always one-sided or superficial. Personality counts for a great deal in selecting objects for observation, and in passing judgment on countries or societies as a whole. The one-sided books are perhaps better than the superficial, when a choice has to be made between them. The journey of a specialist is sure to be interesting, and will probably be clear and accurate in expression, whether the special object in view were mountain-climbing, boating, hunting, philanthropic study, or any other branch of study or recreation.

With regard to the separate countries of Europe, some are represented by excellent general descriptions, as well as intelligent works of travel, while others are almost without trustworthy books of a readable kind. Guide-books, as a rule, are too detailed to be interesting to people who have not visited the countries described; but the "Handbooks" of Mr John Murray may always be referred to with advantage. The introductory chapters give in condensed form a great deal of practical information, by mastering which a teacher may often be enabled to impart great interest to a lesson.

As a rule, the best books on each country are written in the language of that country, but as the present list is designed for practical utility, and is likely to be of most service to people who do not read living foreign languages with ease, books in any other language than English are less frequently mentioned.

Every teacher should endeavour in his holidays to visit some of the nearer Continental countries if he cannot go far afield. A visit to Belgium, Holland, Normandy, or North Germany, will probably be found a cheaper form of holiday than going to the sea-side in England; and the educative effect of even a short visit is very great, especially if the observer looks rather at general than particular aspects of the places he visits.

BOOKS ON EUROPE.

I. Europe in General.

BLOCK, MAURICE. *L'Europe politique et sociale*. Paris : Hachette, 1892. Price 10s.

In the widest sense a treatise on the "Commercial Geography" of Europe, fortified by statistics, diagrams, and maps.

CALLAN, HUGH. *From the Clyde to the Jordan : Narrative of a Bicycle Journey*. Blackie, 1895. 6s.

A vivid popular description of Eastern Europe, Asia Minor, and Palestine.

CASELL'S *Picturesque Europe*. 5 vols. Cassell. Price 18s. each.

Valuable on account of the pictures.

CAVAN, LORD. *With the Yacht and Camera in the Mediterranean*. Sampson Low & Co., 1885. Price 12s. 6d.

— *With the Yacht and Camera in Eastern Waters*. Sampson Low & Co., 1887. Price 12s. 6d.

These two books contain a fine series of photographs of the harbours and shores of the Mediterranean.

FREEMAN, E. A. *Historical Geography of Europe*. 2 vols. Longmans, 1881. Price 31s. 6d.

A classic. Vol. 2 is an atlas containing a series of historical maps of Europe in illustration of Vol. 1.

GIBBINS, Rev. H. DE B. *History of Commerce in Europe*. Macmillan. Price 3s 6d.

SIEVERS, W. *Europa*. Leipzig : Bibliographisches Institut, 1894. Price 15s.

Very well illustrated.

SIME, J. *Geography of Europe*. Macmillan. Price 2s.
One of Macmillan's Geographical Series.

2. Austria-Hungary.

BAKER, J. *Bohemian Pictures*. Religious Tract Society. Price 8s.

Useful for the illustrations.

On the Choice of Geographical Books. 85

CROSSE, A. T. Round About the Carpathians. Blackwood, 1878. Price 12s. 6d.

FELBERMAN, L. Hungary and its People. Griffith, Farran, & Co., 1892. Price 10s. 6d.

An interesting account of Hungary, with an excellent map.

KAY, DAVID. Austria-Hungary. Sampson Low, 1880. Price 3s. 6d.

3. Balkan Peninsula.

LAVELEYE, E. DE. The Balkan Peninsula, translated by Mrs Thorpe. Fisher Unwin, 1887. Price 16s.

Deals with Turkey, Bulgaria, Rumania, Servia, and Bosnia, particularly with the emergence of the ancient Balkan States from the power of Turkey.

SAMUELSON, J. Bulgaria, Past and Present. Trübner, 1888. Price 10s. 6d.

— Roumania, Past and Present. Longmans, 1882. Price 7s. 6d.

Well illustrated, and contains physical and historical maps of the country.

4. Denmark.

OTTÉ, E. C. Denmark and Iceland. Sampson Low. Price 3s. 6d.

5. France.

GOURDAULT, J. La France Pittoresque. Paris: Hachette, 1893. Price 6s.

A remarkably cheap book. Full of fine illustrations.

GREEN, S. G. French Pictures. Religious Tract Society. Price 8s.

Useful for its illustrations.

LEBON, A., and P. PELET. France as it is. Specially written for English readers, and translated by Mrs Wm. Arnold. Cassell, 1888. Price 7s. 6d.

An excellent little text-book of France based on its Geographical conditions.

LEVASSEUR, E. *La France et ses Colonies.* 3 vols. Paris: Delagrave, 1890-91. Price 20s.

Elaborate geographical and economic statistics of the various departments of France, with diagrams and maps. Invaluable for reference, but not attractive reading.

ROBERTS, M. *France.* Sampson Low. Price 3s. 6d.

One of the series of "descriptive handbooks."

6. Germany.

BARING-GOULD, S. *Germany.* Sampson Low. Price 3s. 6d.
A descriptive handbook.

GREEN, S. G. *Pictures from the German Fatherland.* Religious Tract Society. Price 8s.
Useful for pictures.

KIRCHHOFF, A. (Editor). *Forschungen zur deutschen Landes- und Volkskunde.* Stuttgart: Engelhorn.

This work is published periodically in separate parts, each complete in itself. Many of the memoirs are models of geographical description, and are excellently illustrated by original maps and pictures. They deal either with distinct districts, or with special distributions.

MACDONELL, A. A. *Camping Voyages on German Rivers.* Stanford, 1890. Price 10s. 6d.

The rivers on which these voyages were made traverse a large part of Germany, and the descriptions give a good idea of the country.

7. Greece.

BENT, J. T. *The Cyclades, or Life among the Insular Greeks.* Longmans, 1885. Price 12s. 6d.

Deals with the present people and the ancient monuments of the Greek Islands.

MAHAFFY, J. P. *Greek Pictures.* Religious Tract Society. Price 8s.

Useful for illustrations.

SERGEANT, L. *Greece.* Sampson Low, 1882. Price 3s. 6d.
A descriptive handbook.

TOZER, H. F. *Lectures on the Geography of Greece.* Murray, 1873. Price 9s.

These lectures bring out admirably the relations of the Geography of Greece to its history.

8. Holland.

LOVETT, R. Pictures from Holland. Religious Tract Society.
Price 8s.

Useful for its illustrations.

MAHAFFY, J. P., and J. E. ROGERS. Sketches from a Tour
through Holland and Germany. Macmillan, 1889. Price
10s. 6d.

Deals with parts of these countries not often described.

9. Iceland.

COLES, J. Summer Travelling in Iceland. Murray. Price 18s.
By the Royal Geographical Society's Instructor for travellers.

DUFFERIN, Lord. Letters from High Latitudes. Murray.
Price 7s. 6d.

HOWELL, W. W. Icelandic Pictures. Religious Tract Society.
Price 8s.

For the illustrations.

10. Italy.

MANNING, S. Italian Pictures. Religious Tract Society.
Price 8s.

For the illustrations.

11. Portugal.

CARNARVON, EARL OF. Portugal and Galicia. Murray. Price
3s. 6d.

Account of travels in 1827.

CRAWFURD, O. Round the Calendar in Portugal. Chapman
& Hall, 1890. Price 21s.

A capital description of rural life in Portugal.

12. Russia.

FINLAND in the 19th Century, by Finnish Authors. Helsingfors:
Tilgmann, 1894. Price *ca.* 25s.

A monumental work, splendidly illustrated, dealing with all
aspects of life in Finland.

HAKLUYT, R. Discovery of Muscovy. Cassell. Price 3d. and 6d.

Early exploration and adventure.

INDUSTRIES of Russia, translated by J. M. Crawford. 5 vols. With many maps. St Petersburg, 1893.

A most valuable series of treatises, giving a complete account of the resources of Russia, prepared officially for the Chicago World's Fair. They may be consulted in a library.

MICHELL, T. Russian Pictures. Religious Tract Society. Price 8s.

For the illustrations.

MORFILL, W. R. Russia. Sampson Low. Price 3s. 6d.

A descriptive handbook.

RAE, E. White Sea Peninsula. Murray. Price 15s.

A lively account of travels in Lapland in 1881.

WALLACE, Sir D. MACKENZIE. Russia. Cassell. Price 5s.

This gives the best general account of Russia and the Russians that has appeared in the English language.

13. Scandinavia—Sweden and Norway.

DU CHAILLU, PAUL. The Land of the Midnight Sun. 2 vols.

Murray, 1881. Price 36s.

A remarkably minute and graphic description of scenes and life in Sweden and Norway.

GOODMAN, E. J. The Best Tour in Norway. Sampson Low, 1892. Price 7s. 6d.

Description of a modern tour.

KEARY, C. F. Norway and the Norwegians. Percival & Co., 1892. Price 5s.

LOVETT, R. Norwegian Pictures. Religious Tract Society. Price 8s.

Useful for illustrations.

14. Spain.

BORROW, G. The Bible in Spain. Many editions. Nelson, 4s.;

Murray, 3s. 6d.; Longmans, 3s. 6d.; Ward, Lock & Co., 2s.

A thrilling narrative of travel and adventure in Spain as it was in 1835.

On the Choice of Geographical Books. 89

CHAPMAN AND BUCK. Wild. Spain. Gurney & Jackson, 1893. Price 21s.

Gives a striking account of the modern conditions of rural Spain.

FORD, R. Gatherings from Spain. Murray. Price 3s. 6d.

LUFFMANN, C. B. A Vagabond in Spain. Murray. Price 6s.

An account of a journey on foot in 1893.

15. Switzerland.

BAKER, F. G. The Model Republic: a History of the Rise and Progress of the Swiss People. Nichols & Co., 1895. Price 10s. 6d. net.

A historical account of Switzerland, which helps to explain the relation of the land to the people.

LUBBOCK, Sir JOHN. The Scenery of Switzerland, and the Causes to which it is due. Macmillan, 1896. Price 6s.

The scenery of Switzerland is here described to illustrate the Physical Geography of the region. There are numerous diagrams.

MANNING, S. Swiss Pictures. Religious Tract Society. Price 8s.

For the illustrations.

16. Turkey.

BAKER, J. Turkey in Europe. Cassell, 1877. Price 21s.

Gives an account of several journeys.

TOZER, H. F. Researches in the Highlands of Turkey. Murray, 1869. 2 vols. Price 24s.

CHAPTER XII.

The Geography of Asia.

THE best concise account of the physical geography of Asia is that given by Prince Kropotkin, in the article "Asia" in *Chambers's Encyclopædia*. It shows a thorough mastery of the principles of Geography, and apart from its intrinsic interest as a description of Asia, it is worth reading as a model geographical monograph. The interior of Asia is the subject of innumerable papers in geographical journals, and for some time to come important results may be looked for from the explorers who penetrate the Himalayas and the vast plateau of Tibet. The development of Siberia by means of the great trans-continental railway now in progress, and the political events in which the Chinese Empire plays a part, will ensure the publication in newspapers and magazines of many articles on parts of Asia which as yet are little known. The literature of Asia, large though it is in the languages of Western Europe, is relatively greater in Russian; and it unfortunately happens that many important records remain unknown to Western geographers.

A great part of the literature of the Malay Archipelago is written in Dutch, and much concerning India, Ceylon, and the Far East in Portuguese, languages which also find few readers in England.

It is worth while to draw attention to the difference between the results of modern exploration in Asia, and those in the other continents. Discovery in Asia is for the most part re-discovery of sites and routes famous in history, but obliterated by the course of events. At present Asia Minor is

the centre of energetic re-discovery, and, as access to the heart of Asia becomes easier, the relics of the ancient peoples who once inhabited vast regions now desert will doubtless be searched for no less eagerly.

It must be remembered, however, that ancient Asia is dead, and that the ancient Geography helps but little to elucidate the modern condition of things in that continent. Nowhere else does the importance of climate appear so prominently in relation to land forms and to people; hence in learning the Geography of India, for example, too much stress cannot well be laid upon the monsoons, and the consequent distribution of rainfall. On the other hand, the predominance in Asia of the three European powers, Great Britain, Russia, and France, in the south, the north, and the south-east respectively, supplies a set of conditions unlike those found in any other continent; and it is to this predominance of European powers, that the full and fairly satisfactory geographical literature of Asia is to be ascribed.

In studying the Geography of Asia, the difficulty of recognising place-names in different spellings is sometimes serious. Apart from the problem of rendering in any consistent phonetic form Chinese names which are unpronounceable by Europeans, and the minor confusion as to where to draw the line of familiarity which justifies the retention of old spellings of Indian names in place of the Hunterian forms, there is an unsettled controversy about the treatment of Oriental alphabets. Many experts recommend that the Persian and Arabic alphabets should be transliterated so that the original spelling, and not the sound alone, should be represented in Roman letters. The attempt to do this involves the use of various diacritical marks, which, while useful to the Oriental scholar, are stumbling-blocks to the ordinary reader, who cannot be expected to know how for instance the sound of *ṭ* and *ṣ* should be made to differ from *t* and *s*. In this connection teachers should be warned against looking on any consistent spelling of Oriental names as "right" or "wrong" in itself; but it need hardly be observed that if a place-name is spelt in different

ways in the same book, except in acknowledged quotations, it proves carelessness on the part of the author.

The boundaries of Asia are assumed to be the political boundary between European and Asiatic Russia on the west, the islands of the Ægean Sea belonging nominally or actually to Turkey being included, and on the south-east the boundary is drawn, so as to include the whole Malay Archipelago, including the Philippines, but excluding New Guinea and the Caroline Islands. The Russian Islands in Bering Sea are included in Asia, the Alaskan Islands in America, while the New Siberian Islands are considered as in the Arctic Regions. These are largely arbitrary distinctions, other boundaries may with equal appropriateness be adopted by other writers.

BOOKS ON ASIA.

I. General.

BURNES, Sir A. Travels into Bokhara, being the Account of a Journey from India to Cabool, Tartary, and Persia. Murray, 1834. Price 18s.

Valuable as an account of one of the first journeys beyond the North-Western Frontier of India.

GUILLEMARD, F. H. H. The Cruise of the "Marchesa" to Kamschatka and New Guinea, with Notices of Formosa, Liu-Kiu, and various Islands of the Malay Archipelago. 2 vols. Murray, 1886. Price 21s.

An admirable account of a yacht voyage undertaken largely with geographical aims.

KEANE, A. H. Asia. 2 vols. Stanford, 1896. Price 30s.

This forms part of Stanford's *Compendium of Geography and Travel*, and is the best English book on Asia considered geographically.

NORDENSKIÖLD, A. E. The Voyage of the "Vega" round Asia and Europe. 2 vols. Macmillan, 1881. Price 45s. Also Abridged Edition. Price 6s.

This work describes the only circumnavigation of Europe and Asia ever made.

SIEVERS, W. Asien. Leipzig: Bibliographisches Institut, 1894. Price 15s.

Well illustrated.

2. Afghanistan.

BURNES, Sir A. Cabool: a Personal Narrative of a Journey to and Residence in that City in 1836-38. Murray, 1843. Price 18s.

ROBERTSON, Sir G. S. The Kafirs of the Hindu-Kush. Lawrence & Bullen, 1896. Price 31s. 6d.

Describes one of the most remarkable primitive communities in the world, the people retaining the characteristics observed in them many centuries ago.



YATE, C. E. Northern Afghanistan. Blackwood, 1888.
Price 18s.

An account of travels in Afghanistan by a British officer during the delimitation of the "scientific frontier" with Russia.

3. Ceylon.

BAKER, Sir S. Eight Years' Wanderings in Ceylon. Longmans. Price 3s. 6d.

This describes Ceylon in 1845-53.

CAVE, H. W. Picturesque Ceylon. 3 vols. Sampson Low.
Price 77s.

The numerous photographic illustrations by the author are of quite exceptional beauty.

FERGUSON, J. Ceylon in 1893. Haddon & Co., 1893. Price 7s. 6d.

By a practical man of great experience, a safe guide to the present condition of the island.

HAECKEL, E. A Visit to Ceylon. Kegan Paul, 1883. Price 7s. 6d.

Very picturesque and sympathetic descriptions of tropical nature by a man of science.

4. Chinese Empire.

BLAKISTON, T. W. Five Months on the Yang-Tsze, with a Narrative of the Exploration of its Upper Waters. Murray, 1862. Price 18s.

A most interesting account of the earliest voyage to the Upper Yang-tse after it was opened to Europeans.

COOPER, T. T. Travels of a Pioneer of Commerce in Pig-tail and Petticoats. Murray, 1871. Price 16s.

Mr Cooper was the first European to penetrate into Eastern Tibet from China.

GILL, W. The River of Golden Sand, being an Account of a Journey through China, and Eastern Tibet to Burmah; Condensed by E. C. Baber. Murray, 1883. Price 7s. 6d.

The journey was made in 1879, and this edition contains a memoir of the author and revised geographical introduction by Sir H. Yule.

GILMOUR, J. Among the Mongols. Religious Tract Society, 1888. Price 3s. 6d.

— More about the Mongols. Religious Tract Society, 1893. Price 5s.

Remarkably vivid impressions of Northern China and Mongolia acquired during years of missionary travel.

HUC, E. R. Recollections of a Journey through Tartary, Tibet, and China in 1844-46; Translated 1852. New Cheap Edition. Nelson & Son. Price 1s.

The travels of the Abbé Huc deserve in many respects to stand beside those of Marco Polo. Both were at one time believed to be largely fabulous, but subsequent explorations have proved that both were substantially correct, being the intelligent observations of honest men.

MARTIN, W. A. P. A Cycle of Cathay, or China South and North. Oliphant, Anderson, & Ferrier, 1896. Price 7s. 6d.

A recent and trustworthy record of impressions of China and the Chinese by a resident in the country. Illustrated by some of the unrivalled photographs of Mr John Thomson.

PREJEVALSKY, N. Mongolia, the Tangut Country, and Solitudes of Northern Tibet, a Narrative of Three Years' Travel; Translated by E. Delmar Morgan. Sampson Low, 1876. 2 vols. Price 42s.

— From Kulja across the Tian Shan to Lob-Nor; Translated by E. Delmar Morgan and Sir Douglas Forsyth. Sampson Low, 1879. Price 15s.

Two of the most striking modern journeys in Central Asia, by the most celebrated Russian explorer.

RICHTHOFEN, BARON F. VON. China [in German]. 3 vols. Published since 1877. Berlin: Reimer. Price ca. 100s.

The standard work on China from a purely geographical standpoint. The maps and diagrams are of great value.

ROCKHILL, W. W. The Land of the Lamas, 1891. Longmans. Price 15s.

Conveys an excellent idea of Tibet, and the mode of travelling there.

SHAW, R. Visits to High Tartary, Yarkand, and Kashgar. Murray, 1871. Price 16s.

An interesting account of a very adventurous journey.

WILLIAMS, S. W. *The Middle Kingdom (China).* 2 vols.
Allen, 1883. Price 42s.

A systematic treatise on China.

YOUNGHUSBAND, F. *The Heart of a Continent : Manchuria, Turkestan, and the Pamirs.* Murray, 1896. 21s.

Admirable descriptions of Asiatic scenes and adventures ; a very stimulating narrative of travels.

5. French Indo-China.

BOUINAIS, A., and H. PAULUS. *La France en Indo-Chine.*
Paris : Challamel, 1890. Price ca. 3s.

THE French in Indo-China. Nelson. Price 2s.

6. Indian Empire.

ACLAND, C. *Manners and Customs of India.* Murray.
Price 2s. Originally published in 1847.

BARTHOLOMEW, J. G. *Hand Atlas of India.* Constable,
1893. Price 14s.

A convenient little atlas, with a large scale map of India in sections and plans of the chief towns.

BERNIER'S Travels in the Mogul Empire. New edition, by A.
Constable. Constable, 1891. Price 6s. net.

A beautiful edition of a very interesting work, descriptive of the Mogul Empire as seen in 1656-68.

BLANFORD, H. F. *An Elementary Geography of India, Burma, and Ceylon.* Macmillan. Price 1s. 9d.

One of Macmillan's geographical series of school books.

GORE, F. St J. *Lights and Shades of Indian Hill Life.*
Murray, 1895. Price 31s. 6d.

A book of rare excellence. The illustrations are particularly well chosen and finely reproduced.

HEBER, Bishop. *Journals in India.* Murray. 2 vols.
Price 7s.

A view of India and life in India about 1825.

HOOKE, Sir J. D. *Himalayan Journals.* Ward, Lock, &
Co. Price 2s.

Fascinating account of the travels of a botanist in the Himalayas forty years ago.

HUNTER, Sir W. W. Imperial Gazetteer of India. Second Edition. 14 vols. Price 6s.

The spelling adopted in this gazetteer is recognised as authoritative for use in India.

— The Indian Empire : Its History, People, and Products. Third Edition. Allen, 1893. Price 28s.

The best account of India in all its aspects to be found.

— A Brief History of the Indian Peoples. Second Edition. Oxford : Clarendon Press, 1893. Price 3s. 6d.

An admirable epitome of the larger work.

— A School History and Geography of Northern India. Froude, 1891. Price 2s.

Treats of Bengal and the Northern Provinces ; designed for Indian schools.

KNIGHT, E. F. Where Three Empires Meet. Longmans. Price 3s. 6d.

Full of thrilling adventures in recent frontier warfare, and realistic studies of places and peoples on the north-west frontier.

LAWRENCE, W. R. Kashmir. Froude, 1895. Price 12s. net.

A book of exceeding interest by one who knows the country well. The illustrations are very beautiful.

LYALL, Sir A. The Rise of the British Dominion in India. Murray, 1893. Price 4s. 6d.

An original, concise, and interesting history.

SLEEMAN, Sir W. H. Rambles and Recollections of an Indian Official. Constable, 1893. Price 10s. net.

This book was first published in 1844, and gives an excellent idea of India before the Mutiny.

THOMSON, T. Western Himalaya and Tibet : a Narrative of a Journey through the Mountains of Northern India in 1847-48. Reeve & Co., 1852. Price 15s.

Dr Thomson was the first Englishman to reach the Karakoram Pass.

URWICK, W. Indian Pictures. Religious Tract Society. Price 8s.

For the illustrations.

WILSON, A. *The Abode of Snow. Observations on a Journey from Chinese Tibet to the Indian Caucasus through the Upper Valleys of the Himalaya.* Blackwood, 1875. Price 10s. 6d.

Very brightly written, giving an excellent idea of the Himalayan region.

WOOD, J. *Personal Narrative of a Journey to the Source of the River Oxus.* Murray, 1841. Price 14s.

This journey was made by way of Kabul; the description of the mountainous region of the north-west frontier is very good.

7. Japan.

BATCHELOR, J. *The Ainu of Japan.* Religious Tract Society, 1892. Price 6s.

On the aboriginal people of Yezo.

REIN, J. J. *Japan: Travels and Researches undertaken at the cost of the Prussian Government.* Hodder & Stoughton, 1884. Price 25s.

A translation of Vol. 1 of Rein's great German work on Japan, which is a standard authority.

TRISTRAM, Canon. *Rambles in Japan.* Illustrations by E. Whymper. Religious Tract Society. Price 10s. 6d.

From the point of view of a naturalist interested in the Church of England Missions.

WESTON, W. *The Japanese Alps.* Murray, 1896. Price 21s.

Contains much interesting information on the mountains and rural people of Japan.

8. Korea.

CAVENDISH, A. E. J. *Korea and the Sacred White Mountain.* Philip, 1894. Price 25s.

Contains fine sketches of Korean life, many of them in colours, by native artists.

GRIFFIS, W. E. *Corea, the Hermit Nation.* Allan, 1882. Price 18s.

9. Malay Archipelago.

FORBES, H. O. A Naturalist's Wanderings in the Eastern Archipelago from 1878 to 1883. Sampson Low, 1885. Price 2 1s.

The wanderings of the author included most of the larger islands of the archipelago, and the book forms in a sense a supplement to that of Dr A. R. Wallace.

FOREMAN, J. The Philippine Islands. Sampson Low, 1890. Price 2 1s.

A standard authority for geographical, historical, and ethnographical data.

GUILLEMARD, F. H. H. Malaysia and the Pacific Archipelagoes (Australasia, Vol. 2). Stanford, 1894. Price 15s.

A volume of Stanford's *Compendium* and the best systematic account of the Geography of the Malay Archipelago in English.

WALLACE, A. R. The Malay Archipelago, the Land of the Orang-utan and the Bird of Paradise. A Narrative of Travel, with Studies of Man and Nature. New edition. Macmillan, 1890. Price 7s. 6d.

A model work of scientific travel, which can never be superseded. It was revised by the author in 1890, and references to recent travellers added. The journeys took place between 1854 and 1862.

10. Persia.

BISHOP, Mrs I. Journeys in Persia and Kurdistan. Murray, 1891. Price 24s.

An account of a journey through the least known part of Central Persia, and across Kurdistan to the Black Sea.

BROWNE, E. G. A Year amongst the Persians. Black, 1893. Price 2 1s.

A singularly fascinating description of the country and people.

CURZON, G. N. Persia and the Persian Question. Longmans, 1892. 2 vols. Price 42s.

A most comprehensive book, with full references to the literature of Persia; the standard work on the country.

WILLS, C. J. In the Land of the Lion and the Sun. Ward, Lock, & Co. Price 2s.

The experiences of a physician resident in Persia for fifteen years, from 1866 to 1881.

II. Russia in Asia.

ATKINSON, T. W. *Oriental and Western Siberia : a Narrative of Seven Years' Explorations and Adventures.* Hurst & Blacket, 1858. Price 42s.

Contains many illustrations of scenery in Siberia, Mongolia, and Central Asia.

BRYCE, J. *Transcaucasia and Ararat, being Notes of a Vacation Tour in the Autumn of 1876, with an additional chapter on Armenia.* Macmillan, 1897. Price 8s. 6d.

There is no more readable or trustworthy book on the region.

BURNABY, F. *A Ride to Khiva : Travels and Adventures in Central Asia (1875).* Cassell. Price 3s. 6d. and 1s. 6d.

A capital account of Russian Central Asia before the construction of the Trans-Caspian Railway.

CURZON, G. N. *Russia in Central Asia in 1889, and the Anglo-Russian Question.* Longmans, 1887. Price 21s.

Describes the route of the Trans-Caspian Railway, and gives an excellent idea of the advance of Russian conquest in Central Asia.

DE WINDT, H. *Siberia as it is.* Chapman & Hall, 1892. Price 18s.

The author describes his journey from Perm to Tomsk in 1890, laying special stress on the social life of the Russians in Siberia, and the state of the prisons, of which he gives a favourable description.

FRESHFIELD, D. W. *The Exploration of the Caucasus, with illustrations by Vittorio Sella.* 2 vols. Arnold, 1896. Price 63s.

This splendid work describes the scenery and people of the Central Caucasus in great detail, and the photographs are the finest ever produced in illustration of a geographical work.

KENNAN, C. W. *Siberia and the Exile System.* Osgoode, M'Ilvaine, & Co. 2 vols. 1891. Price 32s.

Mr Kennan's aim is to give a clear and vivid impression of the scenery, the people, and the customs of Siberia, and to record the results of a careful study of the exile system, of which he took an opposite view to Mr de Windt's.

VAMBERY, A. *Travels in Central Asia.* Murray, 1864. Price 21s.

The journey here recorded was made in 1863 from Teheran, across the Trans-Caspian Desert to Khiva, Bokhara, and Samarkand.

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WOOD, H. The Shores of Lake Aral. Smith, Elder, & Co.,
1876. Price 14s.

12. Siam.

GRINDROD, Mrs. Siam. Stanford, 1895. Price 5s. net.

An effort to present the geographical features of Siam in an orderly manner, specially intended for Siamese students studying in England.

13. Turkey in Asia. (a.) General.

CUINET, VITAL. La Turquie d'Asie. 4 vols. Paris: Leroux,
1890-95. Price ca. 100s.

The only authoritative geographical and statistical description of Asiatic Turkey.

(b.) Asia Minor.

BARKLEY, H. C. A Ride through Asia-Minor and Armenia.

Murray, 1891. Price 10s. 6d.

The account of a visit in 1878-79.

LENNEP, H. J. VAN. Travels in Little-Known Parts of Asia

Minor. 2 vols. Murray, 1870. Price 24s.

Describes the country mainly from the archaeological standpoint.

TOZER, H. F. Turkish Armenia and Eastern Asia-Minor.

Longmans, 1881.

Account of a journey in 1879, full of admirable descriptions.

(c.) Arabia and Mesopotamia.

BURTON, Sir R. F. Personal Narrative of a Pilgrimage to El-

Medina and Meccah. New edition. 2 vols. Tylston.

Price 12s.

Describes a journey undertaken in disguise with reckless courage to the holy cities of Arabia.

CHESNEY, F. R. Narrative of the Euphrates Expedition of

1835-37. Longmans, 1868. Price 24s.

The record of the leader of the British Expedition for the Exploration of the Tigris and Euphrates.

GOLDSMID, Sir F. J. Telegraph and Travel. Macmillan,

1874. Price 20s.

LAYARD, Sir A. H. Nineveh and its Remains. New edition. Murray. Price 7s 6d.

— Discoveries in the Ruins of Nineveh and Babylon. New edition. Murray. Price 7s. 6d.

These books are interesting as records of travel about 1850 over a large part of Asiatic Turkey, and still more as describing the discovery of the ancient memorials from which the histories of Nineveh and Babylon have been recovered.

PALGRAVE, W. G. Narrative of a Year's Journey through Central and Eastern Arabia in 1862-63. New edition. Macmillan. Price 6s.

A standard work of descriptive Geography relating to a region which Europeans rarely visit.

(d.) Syria and Palestine.

CONDER, C. R. Palestine. Philip, 1893. Price 4s. 6d.

A concise account of the country and of the work of the Palestine Exploration Fund.

IRBY AND MANGLES. Travels in the Holy Land. Murray. Price 2s.

These travels took place before 1820.

MACGREGOR, J. The "Rob Roy" on the Jordan. Murray. Price 7s. 6d.

Racy description of a canoe voyage down the Jordan to the Dead Sea in 1868-69.

MILLER, W. The Least of all Lands. Blackie, 1888. Price 4s. 6d.

Applies the principles of Geography to selected points of Scripture history in a masterly manner.

SMITH, G. A. The Historical Geography of the Holy Land. Hodder & Stoughton. New Edition, 1897. Price 15s.

The most complete geographical and historical treatment of Palestine, illustrated by an exceptionally fine set of maps. A model geographical treatise, with which there are few relating to any part of the world that can be compared.

CHAPTER XIII.

The Geography of Africa.

DURING the last twenty years Africa has had a very large share of geographical literature devoted to it. So many explorations of the first order have been made and recorded, that it is only possible to include a few representative works. These cannot be easily classified, for they belong to a period of rapid development of the Political Geography of the continent, when dividing lines were vague, and being frequently shifted. After a time there is no doubt that the records of work will refer to the divisions of the Continent, which are now generally recognised. The tendency for books to refer to accepted geographical divisions is illustrated in the case of Europe by the fact that out of 5,000 titles of modern geographical works taken at random only 250, or 5 per cent., could not be classified under the names of the present European countries. This stage is, however, not yet reached in Africa, and the divisions which are adopted in subdividing that continent are in consequence not very precise.

It is absolutely essential in studying the Geography of Africa to use maps of date subsequent to 1885, and if subsequent to 1895, the map will be so much the better. Not the boundaries only but the positions of lakes, mountains, and villages, and the directions of rivers have been often changed in consequence of the completion of new and more accurate surveys.

The keen interest taken in the political and commercial development of Africa in several European countries, has led

to the preparation of numerous general works describing that continent in English, French, and German. Some of these are popular compilations of no serious value; but several, the names of which are given in the following lists, are model geographical treatises. The school Geography of Africa by Mr Heawood is perhaps the best of these considering its size.

In reading most books on Africa, it is important to ascertain, and bear in mind the views of the writer on controversial questions, so as not to be seriously misled. In this respect Dr Scott Keltie's *Partition of Africa* may be safely taken as a standard of comparison, as the sections relating to the history of the part played by each European nation in the political occupation of its territory have been revised by expert geographers of the nationalities in question. Journals representing African interests in European countries are very apt to give one-sided accounts of the territory each is interested in, and "other-sided" accounts of the neighbouring territories. The daily newspapers are, perhaps, more likely to give impartial statements; but in all cases readers should be careful to discriminate between facts and opinions.

BOOKS ON AFRICA.

1. Africa in General.

BROWN, R. Africa and its Explorers. 3 vols. Cassell, 1893.
Price 22s. 6d.

Many of the historical sections are extremely graphic, and the 800 illustrations are instructive.

HEAWOOD, E. Elementary Geography of Africa. Macmillan, 1897. Price 2s. 6d.

A piece of careful work, trustworthy in every statement; and, although brief, containing all essential facts in due proportion.

HERTSLET, Sir E. The Map of Africa by Treaty. 3 vols. Spottiswoode, 1896. Price 31s. 6d.

An authoritative compilation, containing the text of all treaties on which the modern boundaries in Africa are based, with maps. This is only suggested for ultimate appeal as to the Political Geography of Africa.

KEANE, A. H. Africa. 2 vols. Stanford, 1895. Price 30s.
Part of Stanford's *Compendium*, carefully rewritten for this issue.

KELTIE, J. SCOTT. Partition of Africa. Stanford, 1895.
Price 16s.

Gives a full account of the development of the Political Geography of Africa, with valuable historical maps. A standard work.

SIEVERS, W. Afrika. Leipzig: Bibliographisches Institut, 1894. Price 15s.

A well-illustrated volume.

WHITE, A. SILVA. Development of Africa. Second Edition. Philip, 1893. Price 7s.

Summarises the physical conditions of the continent and its economic value. There are useful physical maps.

2. Abyssinia.

BAKER, Sir S. Nile Tributaries of Abyssinia. Macmillan.
Price 6s.

Narrative of a journey in 1861 preliminary to his expedition to the Nile sources.

BRUCE, J. Travels through part of Africa into Abyssinia to Discover the Source of the Nile. Chambers. Price 2s.

This describes the first modern travels in Africa dating from 1768 to 1773.

LOBO. Voyage to Abyssinia. Cassell. Price 6d.

A journey undertaken in 1624 of historical interest.

PARKYNS, M. Abyssinia. Murray. Price 7s. 6d.

Originally published in 1853.

STANLEY, H. M. The Campaign of Magdala, 1866-67.

Sampson Low. Price 2s. 6d.

Narrative of the British expedition to Abyssinia.

3. Egypt.

HERODOTUS. Egypt and Scythia (Translation). Cassell. Price 6d.

The first account of Egypt.

LANE, E. W. Manners and Customs of Modern Egyptians.

Ward, Lock, & Co. Price 2s.

Mr Lane speaks of the Egypt of sixty years ago.

OHRWALDER, J. Ten Years' Captivity in the Mahdi's Camp.

Sampson Low. Price 2s. 6d.

A stirring story of adventure, including the escape of Father Ohrwalder from the Mahdi's camp in 1892.

POOLE, S. LANE. Egypt. Sampson Low. Price 3s. 6d.

One of the descriptive handbooks.

ST JOHN, BAYLE. The Libyan Desert. Murray. Price 2s.

Originally published in 1846, but little more is known of the desert now than then.

SLATIN, R. Fire and Sword in the Sudan. Arnold, 1896.

Price 21s.

Describes the escape of Slatin Pasha in 1895, and gives a vivid account of the Upper Nile Provinces under the rule of the Khalifa.

4. Algeria and Tunis.

LALLEMAND, C. La Tunisie. Paris : Quintin, 1892. Price

ca. 30s.

Remarkable for its fine coloured illustrations.

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TRISTRAM, H. B. *The Great Sahara : Wanderings South of the Atlas Mountains.* Chapman & Hall, 1860. Price 15s.
Describes the far south of Algeria.

WAHL, M. *L'Algérie.* Paris : Alcan, 1889. Price ca. 5s.
A geographical and historical account of Algeria.

5. Morocco.

HARRIS, W. B. *The Land of an African Sultan : Travels in Morocco, 1887-89.* Sampson Low. Price 2s. 6d.
Written by a resident in Morocco.

HAY, Sir J. D. *Morocco and the Moors.* Murray. Price 2s.
By a British representative at the capital of Morocco before 1844.

HOOKE, Sir J. D., and J. BALL. *Tour in Morocco and the Great Atlas.* Macmillan, 1878. Price 21s.
The expedition was made with a botanical object ; but the country visited is fully described.

THOMSON, J. *Travels in the Atlas and Southern Morocco.* Philip, 1889. Price 9s.
Gives a good account of Morocco city and of the Atlas range.

6. Guinea, Nigeria, and Sudan.

BARTH, H. *Travels in North and Central Africa.* Ward, Lock, & Co. Price 2s.

— *Timbuktu and the Niger.* Ward, Lock, & Co. Price 2s.

Although these travels took place more than forty years ago, they remain unsurpassed in interest.

BURTON, Sir R. F. *Wanderings in West Africa.* 2 vols. Tylston. Price 12s.

Full of interesting descriptions of West Africa in 1862.

DUBOIS, F. *Timbuctoo the Mysterious.* Heinemann, 1896. Price 12s. 6d.

The first description of the city of Timbuktu since Barth visited it forty years ago.

PARK, M. *Travels in the Interior of Africa.* Cassell. Price 6d.

These travels are fascinating and romantic ; although a hundred years old, their interest remains fresh.

ROBINSON, C. H. Hausaland; or, 1500 Miles through the Central Sudan. Sampson Low, 1896. Price 14s.

Remarkably interesting description of the manner of life of the Hausa people, and the character of their country, especially of the city of Kano.

SCHWEINFURTH, G. The Heart of Africa, translated by E. E. Frewer, 1868-71. 2 vols. Sampson Low. Price 7s.

A typical scientific exploration in the Eastern and Central Sudan.

STANLEY, H. M. Coomassie: The Campaign of 1873-74. Sampson Low. Price 2s. 6d.

An account of an Ashanti war, gives a good idea of the Upper Guinea country.

THOMSON, J. Mungo Park and the Niger. Philip, 1890. Price 4s. 6d.

This combines with the biography of the pioneer modern explorer in Africa the complete history of discovery in the region he opened up.

7. Congo State and Equatorial Africa.

GLAVE, E. G. Six Years of Adventure in Congo Land. Sampson Low, 1893. Price 7s. 6d.

Describes the life of a pioneer officer of the Congo Free State.

JOHNSTON, Sir H. H. The Congo, from its Mouth to Bolobo. Sampson Low. Price 2s. 6d.

Valuable descriptions of the scenery, natural history, and people the Western Congo as observed on a journey in 1882-83.

STANLEY, H. M. Through the Dark Continent. Sampson Low. Price 12s. 6d.; abridged edition, price 3s. 6d.

Perhaps the most stirring book of African travel ever written. It details the discovery and first navigation of the Congo River system in 1878.

— In Darkest Africa. Cheap editions. Sampson Low. Price 10s. 6d. and 5s.

The story of Stanley's last journey in Africa in 1889, through the Congo State to the Nile, and thence to the East Coast.

8. Somaliland.

JAMES, F. L. The Unknown Horn of Africa. Philip, 1890. Price 7s. 6d.

The narrative of a sporting tour in Somaliland.

9. Central and East Africa.

ARNOT, F. S. Garenganze. Hawkins, 1889. Price 2s. 6d.

— Bihé and Garenganze. Hawkins, 1893. Price 2s. 6d.

Missionary journeys in South Central Africa well told.

BAKER, Sir S. The Albert Nyanza, Great Basin of the Nile, and Exploration of the Nile Sources. Macmillan. Price 6s.

Describes the discovery of the Albert Nyanza in 1864.

BURTON, Sir R. F. The Lake Regions of Central Africa : A Picture of Exploration. 2 vols. Longmans, 1860. Price 3rs. 6d.

Includes the discovery of Lake Tanganyika.

DRUMMOND, H. Tropical Africa. Hodder & Stoughton. 1888. Price 3s. 6d.

The descriptions of the Lake Nyasa region are picturesque and trustworthy.

GREGORY, J. W. The Great Rift Valley : A Journey to Baringo and Mount Kenia. Murray, 1896. Price 21s.

A fine specimen of a modern scientific journey carried out against serious disadvantages with great success. The Physical Geography of East Africa is nowhere better treated.

JOHNSTON, Sir H. H. British Central Africa. Methuen, 1897. Price 30s.

Gives an account of the opening up of Nyasaland, and a general account of the present condition and resources of the British Central Africa Protectorate.

LIVINGSTONE, D. First Expedition to Africa, 1840-1856. Murray. Price 7s. 6d.

— Second Expedition to Africa, 1858-1864. Murray. Price 7s. 6d.

— Last Journals in Central Africa. 2 vols. Murray, 1874. Price 28s.

Every word written by Livingstone, the unapproached master of African exploration, is deserving of being carefully read.

SPEKE, J. H. Journal of the Discovery of the Source of the Nile. Blackwood, 1863. Price *ca.* 15s.

A fine piece of pioneer exploration.

THOMSON, J. To the Central African Lakes and Back. Sampson Low, 1881. Price 7s. 6d.

The first journey of this successful traveller ; well worth reading.

THOMSON, J. Through Masai Land. Sampson Low. Price 2s. 6d.

The author's adventures amongst the Masai on his journey through East Equatorial Africa in 1883-84 were most exciting, and the story is well told.

10. Cape Colony and Natal.

FEILDEN, Mrs J. L. My African Home : Bush Life in Natal when a Young Colony. Sampson Low. Price 7s. 6d.

Describes Natal in 1852-57.

MARTIN, A. Home Life on an Ostrich Farm. Philip, 1891. Price 3s. 6d.

Gives a good idea of a farmer's life at the Cape by one who has a considerable knowledge of wild creatures and their ways.

RUSSELL, R. Natal : The Land and its Story. A Geography and History for the use of Schools. Third edition. Pietermaritzburg, 1894. Price *ca.* 5s.

A Colonial school-book which, if it can be procured, would be found useful by teachers at home.

WALLACE, R. Farming Industries of Cape Colony. King & Son, 1895. Price 10s. 6d.

Studies of the agricultural wealth of South Africa of the greatest importance in forming a judgment of the real nature of the colony.

11. South Africa in General.

BENT, J. T. Ruined Cities of Mashonaland. Longmans. Price 3s. 6d.

Description of the remarkable ruins of Zimbabwe.

BRYDEN, H. A. Kloof and Karroo. Longmans. Price 5s.

A typical sporting book.

GALTON, FRANCIS. Travels in South Africa. Ward, Lock, & Co. Price 2s.

Pioneer journeys forty years ago to the north of Cape Colony.

GRESWELL, W. P. Geography of Africa South of Zambesi. Oxford : Clarendon Press, 1892. Price 7s. 6d.

Contains a good account of the physical features of the country.

SELOUS, F. C. Travel and Adventure in South-East Africa. Rowland Ward, 1893. Price 25s.

One of the best records of South African experiences as sportsman, naturalist, pioneer, and road-maker.

12. Madagascar.

DAWSON, E. W. Madagascar : Its Capabilities and Resources.

Philip, 1895. Price 2s.

KNIGHT, E. F. Madagascar in War Time. Longmans, 1896.

Price 12s. 6d.

An excellent account of Madagascar as seen by a war correspondent.

SIBREE, J. Madagascar and its People. Religious Tract

Society, 1870. Price *ca.* 5s.

— The Great African Island. Trübner, 1880. Price 12s.

— Madagascar before the Conquest. Fisher Unwin, 1896.

Price 16s.

Mr Sibree having resided in Madagascar as a missionary since 1866, has made himself thoroughly familiar with the land and people he describes, and his descriptions are fully to be trusted.

CHAPTER XIV.

The Geography of North America.

THE three main divisions of North America are large and distinct, and there are plenty of books about each of them, those relating to the southern division being, however, mainly in Spanish and French. North America, as a whole, is usually treated from the point of view of discovery and exploration, although the physical features give remarkable unity to the Continent. The long range of the Rocky Mountains, the high plateaus to the west, and the great plains and prairies to the east, run unbroken through Canada and the United States, but the description of these uniform features must be sought in two sets of books. The official Geological Surveys of the United States and of Canada are full of valuable descriptions of exploration; and the Census reports of the United States, published every ten years (the last in 1890), are equipped with an unequalled series of statistical maps. The journals of the New York and of the Washington Geographical Societies abound with original papers on all parts of America, and the increasing attention paid to Geography in the Universities has led to the production of many excellent memoirs on separate regions.

With regard to maps there is not such a range of choice for North America as for Europe, the topographic surveys of the various Governments being still very imperfect. The United States is best represented, but the work is divided between the Coast and Geodetic Survey, the United States Geological Survey, and the independent surveys carried on by

separate States. For Physical Geography in the department of meteorology, the United States weather-maps are particularly useful, and attention may be called to the admirable monthly journal of the Weather Bureau.

Of course in teaching the Geography of the vast countries of North America in the schools of Great Britain, attention must be given mainly to the larger features, without entering into the detail required in the schools of the countries themselves. The relative sizes of the provinces or States, and their distinction from, and relations to, the Federal Government should be very carefully insisted on. The small scale of the maps of the United States and Canada usually seen, make it too easy to fall into the childish error that American States correspond to English counties, rather than to the countries composing the United Kingdom, to which they may be more naturally compared.

BOOKS ON NORTH AMERICA.

1. General.

PAYNE, E. J. History of the New World called America.
Vol. I. Oxford: Clarendon Press, 1892. Price 18s.

A scholarly account of the discovery of America, and of the condition of North and South America when first visited by Europeans. The book is written with strict regard to geographical principles.

SIEVERS, W. Amerika. Leipzig: Bibliographisches Institut, 1894. Price 15s.

Well illustrated.

WINSOR, J. Cartier to Frontenac. Boston, Mass.: Houghton, Mifflin, & Co., 1894. Price 16s.

— The Mississippi Basin; the Struggle in America between England and France, 1697-1763. Boston, Mass.: Houghton, Mifflin, & Co., 1895. Price 16s.

These two volumes give a vivid account of the progress of discovery in the Continent of North America.

PARKMAN'S WORKS. Macmillan. 12 vols. Each vol. 7s. 6d.

These form a series of historical treatises descriptive of the discovery and opening up of North America, dealing mainly with Canada.

2. Canada and Newfoundland.

ABBOTT, J. Missionary Life in Canada. Murray. Price 2s.

Contains a good account of the Canadian Indians as they were fifty years ago.

BRYCE, G. Manitoba: its Infancy, Growth, and Present Conditions. Sampson Low. Price 7s. 6d.

Written in 1882, an account of the development of the great grain-growing district of Canada.

BUTLER, Sir W. F. The Great Lone Land, a Record of Travel and Adventure in North and West America. Sampson Low. Three editions. Price 7s. 6d., 3s. 6d., and 2s. 6d.

— The Wild North Land: Across Northern North America. Sampson Low. Two editions. Price 7s. 6d. and 2s. 6d.

The journeys described in these volumes took place between 1871 and 1874; the second was a winter journey with dog-sledges. The descriptions of Northern Canada remain authoritative.

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DONKIN, J. G. *Recollections of Life in the North-West Mounted Police, Canada.* Sampson Low. Price 8s. 6d.

Describes the conditions of settlement of new land in the prairie regions in 1884-88.

FLEMING, Sir S. *England and Canada: A Summer Tour between Old and New Westminster.* Sampson Low, 1884. Price 6s.

Describes the Canadian Pacific Railway.

GRESWELL, W. P. *Geography of the Dominion of Canada and Newfoundland.* Oxford: Clarendon Press, 1891. Price 6s.

A convenient school Geography.

GROHMANN, W. A. B. *Camps in the Rockies.* Sampson Low, 1882. Price 12s. 6d.

A hunter's wanderings, giving a vivid picture of the country.

HARVEY, M. *Newfoundland in 1897.* Sampson Low, 1897. Price 5s.

This, although intended mainly as a tourist's guide-book, gives an excellent idea of the colony.

LORNE, MARQUIS OF. *Canadian Pictures.* Religious Tract Society. Price 8s.

For the illustrations.

PARKIN, G. R. *The Great Dominion: Studies of Canada.* Macmillan, 1895. Price 6s.

A striking picture of the present development of Canada, particularly the western provinces.

PIKE, W. *The Barren Grounds of Northern Canada.* Macmillan, 1892. Price 6s.

— *Through the Sub-Arctic Forest.* A Record of a Canoe Journey from Fort Wrangel to the Pelly Lakes and down the Yukon River. Arnold, 1896. Price 16s.

Very graphic descriptions of recent travel in the far north of Canada and in Alaska, by a sportsman with a keen eye for Nature.

3. United States.

BRYANT, W. C. *Picturesque America.* 4 vols. Cassell. Price 168s.

This beautiful but costly work is devoted almost exclusively to the delineation of the principal natural and architectural features of the United States.

BRYCE, J. The American Commonwealth. 2 vols. Third edition. Macmillan, 1893-95. Price 25s.

The standard work on the political and social organisation of the United States.

DAVIS, W. M. The State Map of Connecticut as an Aid to the Study of Geography in Grammar and High Schools. Connecticut School Document, 1896. No. 6.

— The State Map of Rhode Island as an Aid to the Study of Geography in Grammar and High Schools. 1896.

These little pamphlets, published by the State school authorities of Connecticut and Rhode Island respectively, are valuable as specimens of how the large-scale (Ordnance) maps of any district may be utilised for school purposes.

DYCHE, L. L., and C. E. EDWARDS. Camp-fires of a Naturalist. Sampson Low [1893?]. Price 6s.

An account of hunting and natural history collecting in the United States.

KING, M., and M. F. SWEETSER. Handbook of the United States. Osgood, M'Ilvaine, & Co., 1891. Price 10s.

A compact account of each State, with statistics, illustrations, and maps. Valuable for reference.

LOVETT, R. United States Pictures. Religious Tract Society. Price 8s.

For the illustrations.

POWELL, J. W. Canyons of the Colorado. Meadville, Pa.: Flood & Vincent, 1895. Price *ca.* 20s.

A popular account of a magnificent exploring expedition amidst the grandest scenery of the Far West between 1869 and 1872.

SHALER, N. S. The United States of America. 2 vols. Sampson Low, 1894. Price 36s.

A series of essays by more than twenty specialists, edited by Prof. Shaler, who has himself contributed the more strictly geographical part of the work. It discusses all aspects of the United States.

STANLEY, H. M. My Early Travels and Adventures. 2 vols. Sampson Low. Price 12s. 6d.

Describes the border warfare between the United States troops and the Indians on the edge of the advancing settlements in the prairies west of the Mississippi.

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SYNGE, G. M. A Ride through Wonderland. Sampson Low. Price 12s. 6d.

A fresh and lively account by a lady of a visit to the Yellowstone National Park in the Rocky Mountains.

WHITNEY, J. D. The United States. Facts and Figures illustrating the Physical Geography of the Country and its Material Resources. Boston: Little, Brown, & Co., 1889. Supplement published 1894. Price *ca.* 15s.

This treatise was written for the *Encyclopædia Britannica*, but is in a more expanded form than the article as it appeared in that work. It treats of the geography of the United States systematically, and the supplementary volume gives the statistics of the last census.

4. Mexico.

GOOCH, F. C. Face to Face with the Mexicans. Sampson Low, 1890. Price 16s.

Well-illustrated description of Mexico and the Mexicans by an American lady who had resided seven years in the country.

PRESCOTT, W. H. History of the Conquest of Mexico, with a preliminary view of the ancient Mexican Civilisation. Swan Sonnenschein. Price 7s. 6d. Another Edition. Routledge. 2s.

This important work, written in 1843, takes full cognisance of the geographical basis of history.

RUXTON, G. F. Adventures in Mexico. Murray. Price 3s. 6d.

These adventures in Mexico and the Rocky Mountains date back for fifty years to a time when the scene of them was one of the least known regions in the world.

CHAPTER XV.

The Geography of Central and South America.

A COMPACT series of handbooks of the various Central and South American republics has been published by the Bureau of American Republics in Washington, but that body declines to make itself responsible for the statistics given in any case. Hence, while the general account of the country given in these books is usually very clear and of real educational value, the figures quoted should be taken with some reserve. Most of the standard works on South American countries are written by foreigners, frequently Germans, in the employment of the respective Governments, or by scientific travellers. It should be noted that few of the boundaries in South America are fixed to the mutual satisfaction of adjoining States, so that maps of the continent published in different countries often differ greatly.

There are geographical societies which publish voluminous bulletins in Lima (written in Spanish), Rio de Janeiro and Bahia (in Portuguese), and many valuable papers on physical geography appear in the publications of the La Plata Museum (in Spanish).

It is convenient to class Central America and the West Indies along with South America, and for many purposes Mexico may also be included, the whole series of Spanish or Portuguese speaking republics being sometimes known as

"Latin America," in distinction to the English-speaking communities of North America.

The Geography and history of Latin America are very closely linked together ; the great range of the Andes with its lofty plateaus on the west, and the vast plains of the east with their huge rivers, have exercised in all time an easily detected influence on the movement of peoples, and the boundaries of their countries. Unfortunately there is no systematic geographical treatise on South America on modern lines in English ; but the treatment in Reclus' *Géographie Universelle*, may be taken as the best. Being the last part of that great work to be written, it reflects the sum of the author's experience in geographical study and literary art.

BOOKS ON CENTRAL AND SOUTH AMERICA AND THE WEST INDIES.

I. General.

BALL, J. Notes of a Naturalist in South America. Kegan Paul, 1887. Price 8s. 6d.

Description of a trip round South America in 1882, made with a scientific object, but here described in the most simple and popular way. Well adapted for reading in schools.

BATES, H. W., and A. H. KEANE. South America. Stanford. Price 2 1s.

A volume of Stanford's *Compendium of Geography and Travel*.

CHILD, T. The Spanish American Republics. Osgood, M'Ilvaine, & Co., 1892. Price *ca.* 20s.

Description of a visit paid to many of the republics of South America, both on the East and the West Coast. Finely illustrated.

FORD, J. N. Tropical America. Stanford, 1893. Price 10s. 6d.

Visits by a patriotic American journalist to most of the countries of South and Central America and to the West Indies in 1889-92. Political views are freely expressed, but the facts can be distinguished from opinions.

HUMBOLDT, A. VON. Travels to the Equinoctial Regions of the New Continent, from 1799 to 1804. 3 vols. Bohn. Price 10s. 6d.

One of the first journeys of scientific exploration. A work of much interest historically.

VINCENT, F. Around and about South America. Kegan Paul, 1890. Price 2 1s.

Observations made during a tour of twenty months by a widely travelled American.

WATERTON, C. Wanderings in South America, the North-West of the United States, and the Antilles in 1812-16-20, and 1824. Macmillan. Price 6s., or Popular Edition, 6d. Nelson. Price 4s. Also other editions.

A naturalist's travels which have achieved deserved popularity.

2. West Indies.

FROUDE, J. A. The English in the West Indies. Longmans.
Price 2s. 6d.

Picturesque descriptions. The opinions expressed are not universally held by authorities on the subject.

KINGSLEY, C. At Last: A Christmas in the West Indies. Macmillan. Price 3s. 6d.

Enthusiastic appreciation of the beauty of West Indian scenery. No finer descriptions of tropical countries are to be found.

LEWIS, M. G. Journal of a Residence among the Negroes in the West Indies. Murray. Price 2s.

Refers to a date before 1845.

RODWAY, J. The West Indies and the Spanish Main. Fisher Unwin, 1896. Price 5s.

This history of the West Indies necessarily involves a good deal concerning the Geography of the group.

3. Central America.

BELT, T. The Naturalist in Nicaragua. Murray, 1874.
Price 12s.

One of the standard works on tropical nature, describing journeys in 1868-72.

COLQUHOUN, A. R. The Key of the Pacific: the Nicaragua Canal. Constable, 1896. Price 21s.

A full discussion of the nature and commercial possibilities of the proposed canal through Lake Nicaragua, with maps.

GIBBS, J. R. British Honduras, Historical and Descriptive. Sampson Low, 1883. Price 7s. 6d.

NELSON, W. Five Years at Panama, the Trans-Isthmus Canal. Sampson Low, 1891. Price 6s.

Although politically in South America, the Isthmus of Panama belongs physically to Central America. The five years referred to were 1880-85.

VINCENT, F. In and Out of Central America. New York: Appleton, 1890. Price 6s.

The journey in Central America was made in 1887.

4. Colombia and Ecuador.

SIMSON, A. Travels in the Wilds of Ecuador. Sampson Low, 1887. Price 8s. 6d.

WHYMPER, E. Travels Amongst the Great Andes of the Equator. Murray, 1892. Price 21s. net.

Mainly treats of mountaineering in 1882; the book is magnificently illustrated.

5. Peru.

MARKHAM, Sir C. R. Peru. Sampson Low, 1880. Price 3s. 6d.

One of the descriptive handbooks.

— Travels in Peru and India. Murray, 1862. Price 16s.

Describes the cinchona forests of Peru, and the introduction of the cinchona tree into India.

PRESCOTT, W. H. History of the Conquest of Peru. Swan Sonnenschein. Price 7s. 6d. Another Edition. Routledge. Price 2s.

This important work was written in 1847, and is well worth reading on account of its Geography as well as its history.

SQUIER, E. G. Peru: Incidents of Travel and Exploration in the Land of the Incas. Macmillan, 1877. Price 21s.

TSCHUDI, J. J. Travels in Peru in 1838-42. Bogue, 1847.

These travels still retain great interest and value.

6. River Plate Countries.

BOURGADE LA DARDYE, E. DE. Paraguay, the Land and the People, edited by E. G. Ravenstein. Philip, 1892. Price 7s. 6d.

A systematic description of this little studied country.

HEAD, F. B. Pampas Journeys. Murray. Price 2s.

Captain Head travelled across the Pampas and along the Andes in 1828. He describes these great stretches of country before they had been touched by man.

HUDSON, W. H. The Purple Land that England Lost: Banda Oriental. Sampson Low. Price 6s.

Describes travels and adventures in Uruguay in the year 1884.

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HUDSON, W. H. *The Naturalist in La Plata.* Chapman & Hall, 1892. Price 16s.

— *Idle Days in Patagonia.* Chapman & Hall, 1893. Price 14s.

Full of keen observations of plants and animals, and their ways in the Pampas of the Argentine. The relation between living creatures and their geographical surroundings is fully discussed.

KNIGHT, E. F. *The Cruise of the Falcon across the Atlantic, and up the Rivers Parana and Paraguay.* Sampson Low. Price (different editions), 7s. 6d., 3s. 6d., and 2s. 6d.

A fascinating account of an adventurous voyage in a small yacht in 1883.

MUSTERS, C. G. *At Home with the Patagonians.* Murray, 1871. Price 7s. 6d.

Describes a year's wanderings from the Strait of Magellan to the Rio Negro.

PELLESCI, G. *Eight Months on the Gran Chaco.* Sampson Low, 1886. Price 8s. 6d.

7. Brazil.

AGASSIZ, L., and Mrs AGASSIZ. *A Journey in Brazil.* Trübner, 1868. Price 21s.

A fascinating account of nature and man in South Brazil and on the Amazon in 1865 and 1866.

BATES, H. W. *Naturalist on the River Amazons.* (Abridged Edition.) Murray, 1892. Price 7s. 6d.

A masterpiece of scientific travel. This edition contains a biography of the author.

BURTON, Sir R. *The Highlands of Brazil.* Tinsley. Price 30s. Record of a visit in 1868.

EDWARDS, W. H. *The River Amazon.* Murray. Price 2s. Refers to a date before 1847.

WALLACE, A. R. *Travels on the Amazon and Rio Negro.* Ward, Lock, & Co. Price 2s.

Dr Wallace, the companion of Mr Bates on the Amazon, was led by his observations on this journey, and subsequently in the Malay Archipelago, to arrive independently at the theory of natural selection.

10. Guiana and Venezuela.

BROWN, C. B. Canoe and Camp Life in British Guiana. Stanford, 1876. Price 21s.

The journeys were made in 1868-72.

IM THURN, E. F. Among the Indians of Guiana. Kegan Paul, 1883. Price 18s.

Gives an excellent account, with some fine illustrations of the Guiana Indians and their mode of life.

RALEIGH, Sir W. Discovery of Guiana. Cassell. Price 6d.

A fine piece of historical adventure.

RODWAY, J. In the Guiana Forest: Studies of Nature in Relation to the Struggle for Life. Fisher Unwin, 1895. Price 7s. 6d.

A vivid description of tropical nature, with some remarkable geographical observations.



CHAPTER XVI.

The Geography of Australasia and the Pacific Islands.

THE literature of this region is entirely modern, dating mainly from Captain Cook's great voyages, and continued in the records of the numerous scientific cruises made by French, British, American, and other men-of-war and missionary vessels during the earlier half of the nineteenth century. The reader must be warned against trusting implicitly in the statements of irresponsible travellers. Several books have appeared on different parts of Australia and on the Pacific Islands, which are almost worthy of being classed with the *Travels* of Sir John de Mandeville, if not with those of Baron Munchausen. All those mentioned in the following list may be trusted as giving a true description within their scope.

A great deal of useful information may be obtained from Gordon & Gotch's *Australian Handbook*, which is published annually, and contains, along with an immense amount of statistical information regarding the Australasian Colonies, a full gazetteer of all their towns and villages.

The Government of New South Wales is at present publishing a voluminous history of that colony, recording with the greatest minuteness, and with the reproduction of original documents, all the incidents of the growth of the settlement. This, while of the utmost value to students of colonisation, is on far too large a scale for general readers.

The islands of the Pacific are perhaps best described in the Admiralty Sailing Directions and in Findlay's Directories of the Pacific Ocean, but of course the main bulk of these works is devoted to instructions for mariners. Those who are fortunate enough to have access to R. Louis Stevenson's *Letters from the Pacific* will probably be able to derive from them a better idea of the actual conditions of the Pacific Islands and their people than from any other book, and all the stories of that author, the scene of which is laid in the Pacific, will be found to be veritable geographical romances. Any intelligent reader can allow for the element of fiction, and may safely accept all descriptions of scenery and of character as truly characteristic of Polynesia to-day. In no part of the world are changes proceeding more rapidly than in the Pacific Islands. The plants, animals, and people of a century ago are rapidly disappearing or becoming so much mixed with imported varieties that their primitive character has almost been lost. Hence the earlier books of travel describing those islands have a quite special value.

BOOKS ON AUSTRALASIA AND THE PACIFIC ISLANDS.

1. General.

Low, C. R. Captain Cook's Three Voyages Round the World. Routledge, 1897. Price 2s.

Describes the discovery of innumerable Pacific islands, and the first surveys of the coasts of New Zealand and the east of Australia.

MORRIS, E. E. (Editor). Picturesque Australasia. 4 vols. Cassell. Price 30s.

For the illustrations, which are numerous and good.

PINKERTON'S Australian Voyages. Cassell. Price 6d.

A collection of early voyages.

RANKIN, G. The Federal Geography of British Australasia. Sampson Low, 1891. Price 6s.

An excellent text-book, written by an Australian for Australian schools.

SIEVERS, W. Australasien. Leipzig: Bibliographisches Institut, 1894. Price 15s.

Well illustrated.

STANFORD'S Compendium of Geography and Travel: Australasia. Vol. 1, Australia and New Zealand, by A. R. Wallace; Vol. 2, Malaysia and Pacific Archipelagoes, by F. H. H. Guillemard. Stanford, 1894. Price 15s. each volume.

The best systematic treatise on the subject available.

WALLACE, R. Agriculture and Rural Economy of Australia and New Zealand. Sampson Low. Price 21s. net.

Account of a critical study of the Australasian Colonies in 1890.

See also the works on the British Empire.

2. Australia.

BARTON, C. H. Outlines of Australian Physiography. Maryborough, Queensland, 1895. Price *ca.* 2s.

An excellent little text-book of the Physical Geography of Australia.

- GILES, E. *Australia Twice Traversed in 1872-1876.* 2 vols. Sampson Low & Co., 1889. Price 3os.
With an introduction giving a summary of previous journeys in Australia.
- HAYGARTH, H. W. *Bush Life in Australia.* Murray. Price 2s.
This records experiences for eight years in the bush, before 1848.
- HUTCHINSON, F. (Editor). *New South Wales, the Mother Colony of the Australias.* Sydney: Potter, 1896. Price *ca.* 5s.
A collection of essays on all aspects of New South Wales—historical, geographical, economic, and social—by different authors. Published by the authority of the N.S.W. Government.
- LUMHOLTZ, C. *Among Cannibals: Four Years' Travels in Australia among Aborigines of Queensland.* Murray. Price 24s.
A graphic account of the life of the "Black Fellows" in Queensland.
- MEREDITH, Mrs L. A. *Notes in New South Wales.* Murray. Price 2s.
Refers to the period 1839-44.
- TAYLOR, J. E. *Our Island Continent. A Naturalist's Holiday in Australia.* Society for Propagation of Christian Knowledge, 1886. Price 2s. 6d.
A delightful little book.
- THYNNES, R. *The Story of Australian Exploration.* Fisher Unwin, 1894. Price 5s.
Attractive reading for young people, telling the story of Australian inland exploration like a novel.
- WARBURTON, R. E. *Across the Western Interior of Australia.* Sampson Low, 1875. Price 16s.
Narrative of an important overland expedition.
- WILLOUGHBY, H. *Australian Pictures.* Religious Tract Society. Price 8s.
For the illustrations.
- WOODS, J. D. *The Province of South Australia.* Adelaide, 1894. Price *ca.* 5s.
An official account of South Australia, with a description of the North Territory by H. D. Wilson.

3. New Zealand.

BRADSHAW, J. *New Zealand of To-day*, 1884-87. Sampson Low, 1888. Price 14s.

GISBORNE, WM. *The Colony of New Zealand : Its History, Vicissitudes, and Progress*. Petherick & Co., 1888. Price 7s. 6d.

A good general account of the colony.

HARPER, A. P. *Pioneer Work in the Alps of New Zealand*. Fisher Unwin, 1896. Price 21s.

A narrative of the work of the New Zealand surveyors in exploring and mapping the Southern Alps.

HOCHSTETTER, F. VON. *New Zealand : Its Physical Geography, Geology, and Natural History*. Translated by E. Sauter. Williams & Norgate, 1867. Price 21s.

This is a standard work, although on account of the explorations of the last thirty years it requires to be supplemented by some more modern description.

MANNERING, G. E. *With Axe and Rope in the New Zealand Alps*. Longmans, 1891. Price 12s. 6d.

Gives an excellent idea of the mountains of the South Island of New Zealand.

4. New Guinea and Neighbouring Islands.

BEVAN, T. F. *Toil, Travel, and Discovery in British New Guinea*. Kegan Paul, 1890. Price 7s. 6d.

CHALMERS, J. *Pioneer Life and Work in New Guinea*. Religious Tract Society, 3s. 6d.

An account of missionary experiences.

GILL, W. W. *Life in the Southern Isles. Scenes and Incidents in the South Pacific and New Guinea*. Religious Tract Society. Price 5s.

GUPPY, H. B. *The Solomon Islands*. 2 vols. Swan Sonnenschein, 1887. Price 35s. 6d.

A careful scientific description.

POWELL, W. *Wanderings in a Wild Country*. Sampson Low. Price 5s.

Experiences in New Britain (now called Neu Pommern) in the Bismarck Archipelago about 1880.

ROMILLY, H. H. The Western Pacific and New Guinea.
Murray, 1886. Price 7s. 6d.

THOMSON, J. P. British New Guinea. Philip, 1892. Price
21s.

A general account of the colony and of the results of exploration to
the date of publication.

WOODFORD, C. M. A Naturalist amongst the Head Hunters.
Philip. Price 8s. 6d.

A fine account of adventures and scientific observations in the
Solomon Islands in 1886-88.

5. Polynesia.

BIRD, I. (*Mrs Bishop*). The Hawaiian Archipelago. Murray.
Price 7s. 6d.

Mrs Bishop describes the Sandwich Islands from a visit in 1874.

COOTE, W. Islands North-East of Australia : The Western
Pacific. Sampson Low, 1883. Price 2s. 6d.

MELVILLE, H. Typee. Murray. Price 3s. 6d.

—— Omoo. Murray. Price 3s. 6d.

Two charming pictures of life in the Marquesas in the early years
of the nineteenth century.

REED, W. Recent Wanderings in Fiji. 1888.

CHAPTER XVII.

The Geography of the Polar Regions.

THE romance of Geography is centred in the Polar Regions, for there alone do great expanses of the Earth's surface still defy human efforts to traverse them. The exploration of the Antarctic Regions is still to be done, and with the exception of the books noted, information regarding voyages in these seas must be sought as incidents in voyages such as those of Captain Cook, or as papers in the publications of Geographical Societies. The literature of the Arctic Regions is, on the other hand, very large. It would be impossible to enumerate the great voyages of Arctic discovery in the nineteenth century alone, and previous to that century the search for a north-west and a north-east passage had given occasion to many daring and famous explorations. Four periods may be noted in modern Arctic discovery. (1.) That of the sailing ships under Ross, Parry, and others before 1840. (2.) That of the search for Franklin following on his ill-fated voyage of 1845, and continuing until 1860. (3.) That of ice-protected steamers, including the "Alert" and "Discovery," under Captain Nares in 1875, and the international circum-polar observers of following years; and (4) the efforts of small parties since 1890 to effect explorations over the ice, foremost amongst these being Nansen, Peary, and Jackson.

To a beginner in the study of Arctic adventure there

is no better introduction than General Greely's *Handbook*, which gives classified lists of records of exploration. But no one with a real love for adventurous travel will rest content with less than all the books on polar exploration on which he can lay his hands. The list which follows mentions only a few which are readily obtainable through the booksellers, but every long-established library should contain many of the older Arctic books now out of print, and only to be found occasionally in second-hand booksellers' lists.

BOOKS ON THE POLAR REGIONS.

I. Arctic.

DOUGLAS, Miss M. Across Greenland's Icefields. Nelson, 1897. Price 2s.

A short popular account of the journeys in Greenland of Nansen and Peary.

GREELY, A. W. Three Years of Arctic Service. Bentley, 1886. Price 42s.

The official narrative of the expedition which gained the farthest north point on the west of Greenland.

— Handbook of Arctic Discoveries. Sampson Low, 1896. Price 5s.

A clear and remarkably concise record of Arctic discovery provided with a useful bibliography.

HAKLUYT. The North-West Passage. Cassell. Price 6d.

The history of early efforts towards accomplishing the northern route to India.

KANE, E. K. Arctic Explorations. Nelson. Price 4s.

The story of a remarkable expedition in 1853-55, when the American, Dr Kane, believed he had discovered an open Polar sea.

M'CLINTOCK, Sir L. Narrative of the Discovery of the Fate of Sir John Franklin. Murray. Price 7s. 6d.

The voyage of the "Fox" in 1859-60 here described was one of the most brilliant and successful adventures ever carried out in the Arctic seas.

MARKHAM, A. H. The Great Frozen Sea, a Personal Narrative of the Voyage of the "Alert" during the Arctic Expedition of 1875-76. Kegan Paul. Price 6s.

Admiral Markham here describes the last great British Arctic expedition, in the course of which he came nearer to the North Pole than any one had previously done.

— Franklin and the North-West Passage. Philip, 1891. Price 4s. 6d.

A happy blending of biography and the history of the search for the North-West Passage from the earliest time down to the voyage of Maclure.

MARKHAM, Sir C. R. The Threshold of the Unknown Region. Sampson Low, 1875. Price 10s. 6d.

An account of the knowledge of the Arctic Regions up to 1875.

MARKHAM, Sir C. R. A Life of John Davis the Navigator, 1550-1605, Discoverer of Davis Straits. Philip, 1889. Price 4s. 6d.

Describes not only the work of Davis in the Arctic Regions, but the following up of that work by later explorers.

NANSEN, F. The First Crossing of Greenland (1888). Longmans. Cheap edition. Price 3s. 6d.

Initiates a new principle of Arctic travel, that of having no line of retreat, so making success dependent on pushing onward.

— Farthest North. The Voyage of the "Fram." Constable, 1897. 2 vols. Price 42s.

This unrivalled book of Arctic travel is totally unlike all others, both for forethought in the plan of the expedition, and complete success in carrying it out.

NORDENSKIÖLD, A. E. The Voyage of the "Vega" round the Coasts of Europe and Asia. Macmillan. Price 6s.

Describes the first and only voyage to China and Japan by the North-East Passage in 1878-79, and contains a history of previous efforts in that direction.

PARRY, Sir E. The North-West Passage. Cassell. Price 6d.

Recounts the Arctic voyages in the "Hecla" from 1819 to 1825.

PAYER, J. New Lands within the Arctic Circle. 1876.

Macmillan. 2 vols. Price *ca.* 30s.

The discovery of Franz Josef Land.

THE Search for Franklin. Nelson. Price 1s.

2. Antarctic.

BULI, H. J. The Cruise of the "Antarctic" to the South Polar Regions. London: E. Arnold, 1896. Price 15s.

Describes the first landing on the Antarctic continent.

BURN-MURDOCH, W. G. From Edinburgh to the Antarctic. Longmans, 1894. Price 18s.

The narrative of the cruise of Dundee whalers in 1892-93.

M'CORMICK, R. Voyages in Search of Sir John Franklin, and in the Antarctic Regions. 2 vols. Sampson Low. Price 52s. 6d.

The author was surgeon on one of the vessels of Ross's Antarctic expedition, of which he here gives an independent narrative.

ROSS, Sir JAMES C. Voyage of Discovery in Antarctic Regions in 1839-43. 2 vols. Murray, 1847. Price 36s.

The narrative of the only great Antarctic expedition of the present century. The book is unfortunately out of print, and difficult to procure.

CHAPTER XVIII.

General Travel and Biography.

IN the foregoing lists the titles of many books have been given which deserve to be read as much on account of their intrinsic interest as because of their systematic value. But the lists have been drawn up mainly with the object of supplying the teacher or student with the names of books likely to forward the systematic study of some department of Geography, or of some division of the Earth's surface. To those detailed works there are added in this section others which present interest of a more general kind. They treat of the whole Earth as it actually is, the complex of natural and social conditions which may be dissected into the separate parts of Geography, but which to be properly understood must be looked on as an actual whole. These are divided into general travels, scientific travels, and biography, but the division is not a very exact one. The scientific study of the Earth is the natural development of the discovery which preceded it, and biography presents the life-work of individual men as it bore upon the various objects of their activity.

General travel, including discovery, leads one into Historical Geography. Early travels should be read in a double light. First, the reader should endeavour to put himself in the place of the discoverer, imagine the world to be as the discoverer had been taught it was, and so follow and appreciate step by step the widening of the horizon, and the building of the new knowledge into the old cosmogony. Thus the difficulties and

triumphs of the explorer may be in some measure understood. If one could follow Columbus as he groped his way through the Indian islands, always on the verge of finding himself in Cipangu or Cathay, one could appreciate the nature of his discovery far better than if the ghost of the unknown America, and the unsuspected Pacific rise between him and the object for which he strove. But this done, it is well to read the story over again in the light of modern knowledge, to follow the reasoning and recognise where it was inevitably false, where misleading, and where it was sound and true; to trace out the routes on a modern map, and see how the fact corresponded at each step with the supposed state of matters.

Modifying the amount of displacement of standpoint, but applying the system in the same way, we can get the fullest advantage from reading books of an old date, though within our own period. It will often be found an excellent exercise to compare books of travel in the same regions at different periods of time, in order to obtain a good idea of the progress of a country. It may be objected that simultaneous descriptions by people of different views and temperament differ widely, and that the chance of such difference is not likely to be diminished by increasing the time between the two accounts. That difficulty cannot well be overcome, but it may be mitigated by comparing the narratives of people of, as far as possible, similar modes of thought, sportsmen with sportsmen, missionaries with missionaries, and traders with traders.

Books of scientific travel vary greatly in the degree of detail in which they reproduce the scientific results. The best for general reading are those which give enough of the various branches of science to enable the reader to enter into the spirit of the expedition, and so to anticipate and appreciate the results; but not so much as to divert attention from the geographical aspect of the expedition. Such are the books selected for the following list.

In reading books of general or scientific travel for an educational purpose, a suitable map should always be at hand for consultation, and in many of the books such a map is

supplied. Whenever any natural phenomenon is described it is worth considering whether it is an example of some general law or an exceptional occurrence. For example, the long continued north-east wind which alarmed the sailors of Columbus on his first voyage, serves as an example of the steady trade winds, peculiar to the latitudes in which he was ; while the appearance of St Elmo's fire on the masts which comforted the frightened crew, was an occasional meteorological occurrence of no particular geographical significance.

The personal interest attaching to great explorers makes the biographies of such men extremely attractive and useful. When the biography gives not only the life of the man, but also the history of his work, it becomes doubly important ; and there are few books of greater geographical value than the "World's Explorers Series," published by Messrs Philip, and edited by Messrs Keltie, Mackinder, and Ravenstein. It is much to be regretted that this unique series of books should not have been continued to embrace the whole of the admirable list which tantalises the reader in the announcements at the end of each volume.

The publications of the Hakluyt Society are not referred to in the lists, as the volumes are published by subscription ; but if they can be found in a library they will afford some of the most attractive geographical reading in existence. They not only include annotated reprints of the earlier English works of travel, but translations of the original records of all the great voyages and travels undertaken by Europeans, since the days of Marco Polo and Prince Henry the Navigator.

BOOKS ON GENERAL TRAVEL AND BIOGRAPHY.

I. General Travel.

ANSON, LORD. Voyage Round the World in 1740-44. Blackie & Son. Price 1s. 6d.

ARNOLD, Sir E. Seas and Lands. Longmans. Price 3s. 6d.
Gracefully written notes of modern travel by the usual lines of route.

BLACKWOOD'S. Travel, Adventure, and Sport; Reprinted from *Blackwood's Magazine*. 6 vols. Blackwood. Price 2s. each volume.

Many of the articles in these volumes are original narratives of important travels which are not published elsewhere. They are all well and attractively written.

BRASSEY, LADY. Voyage in the "Sunbeam." Longmans. Price 3s. 6d., and Cheaper Edition, 1s.

— In the Trades, the Tropics, and the Roaring Forties. Longmans. Price 7s. 6d., and Cheaper Edition, 1s.

— The Last Voyage in the "Sunbeam." Longmans. Price 2 1s.

These are pleasantly written records of cruises at sea in all parts of the world, with frequent shore visits at points of interest in every continent. They are very suitable for young people.

BRASSEY, LORD. Voyages and Travels from 1862 to 1894, edited by Captain S. Eardley-Wilmot. 2 vols. Longmans, 1895. Price 10s.

Reprints of magazine articles, lectures, and addresses descriptive of travel in all parts of the world.

HAKLUYT. Voyagers' Tales. Cassell. Price 6d.

From the famous collection of travels first published between 1589 and 1600.

HALL, BASIL. Voyages and Travels. Nelson. Price 4s.

Description of voyages in all parts of the world from 1802 to 1830, and is largely autobiographical.

On the Choice of Geographical Books. 139

MONTIFIORÉ, A. *Leaders into Unknown Lands.* Partridge & Co., 1892. Price 2s. 6d.

A series of chapters on great modern explorers and their work.

NORTH, M. *Recollections of a Happy Life.* 2 vols. Macmillan. Price 17s.

Record of long wanderings in many tropical lands in search of flowers, the painting of which from nature was a passion of the authoress.

PALGRAVE, W. G. *Ulysses; or, Scenes and Studies in Many Lands.* Macmillan, 1887. Price 12s. 6d.

Popular descriptions of modern travel in Asia, Africa, and the West Indies.

POLO, MARCO. *The Book of Ser Marco Polo, Newly Translated and Edited with Notes by Colonel H. Yule.* 2 vols. Murray, 1875. Price 36s.

This is the standard edition, with very valuable notes. There is an edition of the text in Cassell's National Library at 6d., but although curious, and often interesting, the want of explanatory notes deprives the narrative of its modern value.

2. Scientific Travels.

BANKS, Sir J. *Journal during Captain Cook's First Voyage in H.M.S. "Endeavour," in 1768-71,* edited by Sir J. D. Hooker. Macmillan, 1896. Price 17s.

The original diary of the celebrated naturalist had never before been published. The official account of Cook's first voyage was a work compiled from the diaries of Banks and Cook.

CAMPBELL, Lord GEORGE. *Log-Letters from the "Challenger."* Macmillan. Price 6s.

Popular account of the great voyage of the "Challenger" round the world in 1872-76 by one of the naval officers.

COOK, J. *Journal during his First Voyage Round the World made in H.M. Bark "Endeavour," 1768-71,* edited by Captain W. J. L. Wharton. Elliot Stock, 1893. Price 21s.

The first publication of the actual journal, from which, together with Banks' journal, the official account of the voyage was written.

Hints to Teachers and Students.

RENNELL. Major Rennell and the Rise of English Geography,
by Sir C. R. Markham. Cassell. Price 3s. 6d.

SELWYN. Bishop Selwyn of New Zealand and of Lichfield, a
Sketch of his Life and Work by Canon Curteis. Kegan
Paul. Price 7s 6d.

THOMSON. Joseph Thomson, African Explorer, by his
Brother. Sampson Low. Price 7s. 6d.



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